DOCUMENT RESUME

ED 351 752 EA 024 419

TITLE	Business and the Schools: A Guide to Effective Programs. Second Edition.
INSTITUTION	Council for Aid to Education, New York, NY.
PUB DATE	92
NOTE	165p.
AVAILABLE FROM	Council for Aid to Education, 51 Madison Avenue, Suite 2200, New York, NY 10010 ($20 prepaid).
PUB TYPE	Guides - Non-Classroom Use (055) -- Reports - Descriptive (141)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Cooperative Programs; Corporate Education; *Corporate Support; Educational Cooperation; Elementary Secondary Education; Industry; *Private Financial Support; *Program Development; *School Business Relationship; School Restructuring

ABSTRACT

This guidebook contains information to help business leaders and others interested in developing and supporting effective programs to improve American educational quality. Chapter 1 presents an overview of the business/school relationship, which sets the context for corporate involvement in school reform activities at the local, state, and federal levels. Four ways in which companies respond to the educational crisis are briefly described. Chapter 2 introduces a four-step strategy for corporate support of school-based system change: (1) gain information about school needs and corporate interests; (2) choose an education-support program; (3) manage and develop the program; and (4) monitor, assess, evaluate, and report. Chapters 3 through 6 focus on key areas of educational reform: changing the nature of schooling, curricular and pedagogical strategies, the school/community relationship, and working through business/education coalitions. Each chapter contains an introductory essay that describes the kinds of changes sought in that area and explains their importance. The common characteristics of successful approaches and future possible directions for corporate involvement are also described. The chapters provide over 125 examples of programs supported by corporations and other funding agencies. Appendices contain names and addresses of contact organizations and an annotated bibliography of 29 sources. Information is indexed by corporate and other funding agencies, programs and organizations, general subject, and region and state. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED351752

COUNCIL FOR AID TO
EDUCATION

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY

P. Lewis

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BUSINESS and the SCHOOLS

A Guide to Effective Programs

Second Edition

EA 024 419

BEST COPY AVAILABLE

About the Council

The Council for Aid to Education, Inc., is a tax-exempt, not-for-profit corporation dedicated to promoting an effective partnership between corporate and foundation funders and the education community in the task of improving America's educational system.

Founded in 1952 by the chairmen of Standard Oil Company of New Jersey (Exxon), General Motors, U.S. Steel (USX Corporation), the Container Corporation of America, and the Armstrong Cork Company, the Council was originally designed to encourage private-sector support of higher education. Today the Council has expanded its mission to become a resource for companies and private foundations interested in making effective contributions to the quality of American precollege and higher education. This broadened mission also includes the provision of a range of information services to educational institutions interested in cultivating private support.

Supported by large and small corporations as well as by private foundations, the Council helps education funders target key areas of educational concern and identify promising approaches to educational improvement. It points corporations and foundations toward the issues and opportunities in which they have a compelling interest and on which they can have an impact, and alerts funders to the implications of emerging educational challenges. By tracking trends and themes in private support of education over time, the Council can help private funders and educational institutions communicate with each other more clearly, plan more effectively, and assess the results of their efforts in a larger and more meaningful context. Through its publications, seminars, research, and consultations, the Council works to ensure that private investments in education produce results.

COUNCIL FOR AID TO
EDUCATION

BUSINESS and the SCHOOLS

A Guide to Effective Programs

Second Edition

Author's Note

I would like to express my appreciation to all those who shared information about their school programs with the Council and spent valuable time talking with me about their work. For her willing and able administrative support as well as for her good humor — all essential to the completion of this report — I would also like to thank Catherine A. Cullar, at the Council for Aid to Education.

Needless to say, this volume does not pretend to be comprehensive; while we have tried to cover a wide range (of program varieties and sizes, of locations, of company types), the programs described represent only a small sample of the many promising activities sponsored by companies and other funding agencies in schools and districts across the country.

If you are interested in initiating, expanding, or improving an aid-to-education program, we invite you to contact the Council. In addition to publications and research reports on critical issues in precollege and higher education and on corporate and other voluntary support of education, the Council offers the consulting services of its senior staff.

To continue to serve the business community as a clearinghouse of information, the Council for Aid to Education needs to know about your company's involvement in the schools. Please keep us informed about your responses to the critical issues in American education.

Diana Wyllie Rigden
February 1992

Copies of *Business and the Schools*
are available at $20.00 each, prepaid,
from the Council for Aid to Education,
51 Madison Avenue, Suite 2200,
New York, N Y 10010. 212/689-2400

Copyright ©1992 by the Council for Aid to Education, Inc.

Table of Contents

Foreword ... iv
How to Use *Business and the Schools* ... v

Chapter 1

The Business/School Relationship
Business Support of Elementary and Secondary Education ... 1
What Companies Can Do: Types and Levels of Commitment ... 4

Chapter 2

Strategies for Involvement
Know the Local Education Context ... 7
How One Company Focused Its Support of Precollege Education ... 9
Choose an Education-Support Program ... 10
Develop and Manage an Education-Support Program ... 12
Monitor, Assess, Evaluate, and Report ... 13
Programmatic Opportunities ... 15

Chapter 3

Changing the Nature of Schooling
Introduction ... 16
Overview of Program Descriptions ... 17
Programs
  School Restructuring ... 21
  Governance and Management Strategies ... 30
  Business/School Partnerships ... 34

Chapter 4

Changing Curricular and Pedagogical Strategies
Introduction ... 44
Overview of Program Descriptions ... 45
Programs
  Science, Mathematics, and Technology ... 50
  Reading, Writing, and Student Literacy ... 70
  Teacher Recruitment, Education, and Professional Development ... 79

Chapter 5

Changing the Relationship Between Schools and Community
Introduction ... 93
Overview of Program Descriptions ... 94
Programs
  Family Issues and Health Care ... 99
  Preschool and Early Learning ... 109
  School-to-Work ... 113
  College Preparation ... 121

Chapter 6

Working Through Business/Education Coalitions
Introduction ... 127
Overview of Program Descriptions ... 128
Programs ... 130

Appendixes
A. Organizations to Contact for Information on Business/School Interactions ... 139
B. Annotated Bibliography of Resources on Business Support of Education Reform ... 140

Indexes
Corporate and Other Funding Agencies ... 144
Programs and Organizations ... 149
General Subject ... 153
Regions and States ... 154

Foreword

Since the first edition of *Business and the Schools* was published in 1989, corporations have initiated many new education-support projects and expanded or modified some of their existing programs. Our goal in this second edition is not only to provide a thoughtful and well organized (but necessarily incomplete) scan of the kinds of programs that are now in place, but also to begin to ask what might be genuinely promising in the effort to reform our schools. This is not simply a matter of asking "what works"; we need to ask as well why certain initiatives seem to work, under what circumstances, with what supports, and based on what underlying assumptions about students, teachers, parents, school administrators, and communities.

So rather than attempt to catalog every program involving a business and a school, we have looked at a large number of promising programs in context and in detail., The context is provided, first, by an examination of the nature of the business/school relationship and the role of strategic planning in voluntary support of education. Then, throughout the volume, we have included background discussions of the nature and implications of school change — in the classroom, in the educational system at large, and in the relationship of schools with communities. Within each project description, we have tried to flesh out the discussion with the kinds of details (especially in the typically neglected areas of project implementation and assessment) that might help us all learn more from the projects we fund.

By also seeking the common characteristics of promising approaches, identifying some of the questions that are raised by these projects, and focusing on how to measure the effectiveness of our efforts, we hope to round out this reference volume and make it a more valuable resource for meeting the challenges that will face us all in the 1990s: to identify forms of education support that really seem to produce results and then extend, replicate, and scale them up until they have an impact on the education system at large.

One final observation. Learning from the projects we fund will inevitably entail sharing information about obstacles encountered as well as difficulties overcome, about painful disappointments as well as high-minded aspirations. This kind of openness can be problematic for corporations, but here at the Council, we find ourselves encouraging a new kind of corporate public relations stance — one that declares from the outset that businesses are so committed to making a difference in education that they are actively engaged in discovering what is not working in their education initiatives and eager to make adjustments or modifications to bring about improved results.

The cooperation and responsiveness of the corporate colleagues who helped us put together this volume represent an important step in that direction. We thank you for your invaluable assistance; we've learned a great deal from all of you. We hope this volume repays your efforts with a systematic look at what business and the schools can accomplish together for the good of our children, our economy, and our society.

Arnold R. Shore, *President*
Council for Aid to Education

How to Use *Business and the Schools*

This second edition of *Business and the Schools* contains information that can help guide business leaders and others interested in developing and supporting effective programs to improve the quality of education in America's schools. The report provides essential advice on strategic planning for corporate support of precollege education; by describing over 125 promising programs, the report also serves as a source of ideas and funding opportunities.

Since readers will approach this volume from a variety of perspectives and with a range of needs and interests, *Business and the Schools* has been designed to answer several different kinds of questions regarding the roles and responses of business in the arena of school reform. Depending on where you and your company are in the process of defining or shaping your involvement with local schools and school districts, you may want to concentrate on one or another of these questions:

Why does business support education reform?

An overview of the business/school relationship appears in **Chapter One**, establishing the context for corporate involvement in school reform activities at local, state, and national levels. You will find brief descriptions of four ways in which companies respond to the educational crisis: by providing grants, funding and developing additional program support, working through local school partnerships, and joining regional and state coalitions.

How do companies get started?

In **Chapter Two** a four-step strategy for corporate support of school-based system change is introduced in order to help business leaders understand the process of becoming involved. The first step is to gain knowledge and information about school needs and corporate interests. Then decide on appropriate actions — directed by a focus on desired outcomes — that address school needs within the context of company interests. Third, you develop and manage the company's involvement. And finally, you must monitor, assess, evaluate, and report on the program's effectiveness.

What are critical education reform areas, and how effectively are they being addressed?

Chapters Three through Six each focus on a key area of educational reform: Changing the Nature of Schooling; Changing Curricular and Pedagogical Strategies; Changing the Relationship Between Schools and Community; and Working through Business/Education Coalitions. As you will see, there is some overlap among these categories, but they serve to clarify and organize the options for corporate action.

Each of these chapters begins with an introductory essay describing the kinds of changes being sought within that particular area of school reform and explaining why such changes are critical. These introductory essays also include observations about common characteristics of promising approaches and offer comments on possible future directions for corporate involvement.

What kinds of activities are companies and foundations currently engaged in?

Chapters Three through Six provide over 125 specific examples — organized under the four major headings described above — of programs supported by corporations and other funding agencies. Accompanying each description are contact names and addresses.

Where can I find more information?

The **Appendixes** provide two sources of additional assistance and guidance. First there is a list of fourteen organizations (with addresses and contact people) that are working to enhance business support of education reform. Second, you will find an annotated bibliography of printed resources on business support of education reform, including publications on education issues, "how to" books, periodicals, and other references.

***How can I locate specific corporations and programs, or programs of a specific nature, within* Business and the Schools?**

Four **Indexes** at the back of the report will give you page references for (1) Corporate and Other Funding Agencies, (2) Individual Programs and Activities, (3) General Subjects, and (4) Geographical Regions and States.

We hope you find this report both useful and usable.

9

> What we in business and government need to do is help schools agree to goals that focus the schools on their single, top priority: raising student achievement. We need to set up a structure that helps schools arrive at these goals and then get out of the way—and let teachers and school administrators develop and implement their own plans and solutions in a framework of high academic standards and the obligations of citizenship.
>
> *Sam Ginn, Chairman and CEO, Pacific Telesis Corporation*

Chapter 1

The Business/School Relationship

Business Support of Elementary and Secondary Education

Business is an ally of public education for several reasons. In its own interest, it strives to increase the number of graduates qualified for entry-level work in high-tech manufacturing plants, service-oriented workplaces, and corporate offices. It also seeks to enable students to extend their education at colleges and universities in preparation for professional careers. But self-interest isn't the only motivation for corporate support of education. Many business leaders are concerned about the impact a weak education system has on the quality of life for all American citizens.

Many schools and school districts around the country are examining the education process and making those changes necessary to promote good teaching and learning. Companies have been instrumental in the reform process by supporting local school activities and expanding educational opportunities for both teachers and students through grants, projects, volunteers, and material resources. And at state and national levels, the business community uses its influence to advocate changes in those regulations, behaviors, and attitudes that can stifle educational reform.

National and Local Contexts of Business Support

In the early 1990s corporate involvement in local education issues was reinforced by two parallel national initiatives. The Business Roundtable, representing the top 210 companies across the country, announced a ten-year education agenda in 1990 committing its members to work with governors and state education leaders to support and promote school restructuring. In many states business leaders commissioned studies of education needs and formed coalitions to influence new education policies and practices at local and state levels.

Then in 1991 the Bush administration launched America 2000: An Education Strategy. America 2000, designed to help schools and districts achieve the six national education goals established during the 1989 Education Summit of

President George Bush and the nation's governors, looks to the business community for the financial support of educational research and development.

In order to contribute to the reestablishment of a world-class education system in the United States, each of these initiatives must build on what is already understood about effective teaching and learning strategies in classrooms and schools. Business, a key player in both initiatives, can help keep the nation's focus on educational outcomes and not allow the nation to become diverted from the hard task of institutionalizing reform at school and district levels.

Business and the Issues of School Reform

Precollege education in America is faced with increasingly difficult challenges in the 1990s. Schools are expected to prepare all students, regardless of family resources and educational support in the home, with solid foundations in the skills and knowledge needed to lead productive and fulfilled lives. And they are expected to achieve this goal within a political context of severely reduced budgets, increased regulations, often contradictory demands of special interest groups, and sometimes hostile accountability requirements.

In this environment, schools need support and counsel from friends in business, community organizations, and colleges and universities. As companies decide how best to get involved with the schools, they may want to begin by asking, "What is a good education for a child?" rather than by trying from the outset to link individual student learning directly with national economic competitiveness. Although the latter approach emphasizes desirable endpoints, it tends to promote blame for the failure to produce satisfactory educational outcomes. The former approach, by emphasizing what seems most useful for students themselves, allows those involved in education reform to maintain a grounded sense of optimism and promise while designing approaches and initiatives that benefit both children and corporations.

With a programmatic focus of assuring "a good education for a child," corporations can help educators address key school reform issues that promote methods of changing the nature of schools, modifying curricular and pedagogical strategies, and enhancing the relationships between schools and community. Among the areas that need attention are:[1]

Changing the Nature of Schooling

- **School Restructuring.** Change learning and teaching practices and the interaction between teachers and students in the classroom, and change the relationships between administrators and faculty, between school and district, between district and state.
- **Governance and Management Strategies.** Develop new governance and management strategies at school, district, and state levels to support better teaching and learning practices.
- **Business/School Partnerships.** Link partnerships directly to restructuring efforts in schools and districts.

Changing Curricular and Pedagogical Strategies

- **Science, Mathematics, and Technology.** Develop courses, train new and current teachers, and maintain well-equipped facilities to provide all students, especially in elementary grades, with a solid understanding of subject matter and an appreciation for inquiry and experimentation.

---

[1] The areas listed below are those for which program descriptions are provided in Chapters 3–5.

- **Reading, Writing, and Student Literacy.** Develop courses and train new and current teachers to ensure that all students are skilled readers and writers and are able to analyze ideas and information and synthesize them into cogent arguments.
- **Teacher Recruitment, Education, and Training.** Recruit well-qualified teachers, especially among underrepresented minorities, prepare them with excellent educations, and provide them with extended classroom practice opportunities.

Changing the Relationship Between School and Community

- **Family Issues and Health Care.** Develop ways to link families and students to counseling and social services, provide students with the support network needed to focus on academic achievement, and educate students about problems confronting society.
- **Preschool and Early Learning.** Create and support effective preschool and parenting programs to ensure that all students enter school ready to learn.
- **School-to-Work.** Develop solid academic programs for all students, identify the knowledge base and skills students need in order to take advantage of options in the work place, provide meaningful work experiences for students and teachers, and develop programs to provide effective transitions between classroom and work.
- **College Preparation.** Provide opportunities for all students to achieve in courses required for college admission, help students and their families understand options for further education and how to qualify for financial assistance.

Business involvement in supporting these reform issues is varied, which will become apparent by the diversity of programs described in Chapters 3–5. Sometimes companies create a program in response to needs identified by schools and districts, providing staff, resources, and expertise; at other times they instigate and support program development by educators. Often they serve as the chief funding agent for reform activities and programs. And, increasingly, companies have become advocates for local and state education reforms, using their influence to help protect reforms and programs that have already been undertaken by schools.

Corporate Involvement Keyed to Outcomes and Assessment

Companies can play two key roles in helping promote the kind of school-based system change needed to effect genuine change in elementary and secondary education. First, they can keep reform activities focused on the fundamental outcomes they wish to achieve through the programs they develop and support:

- To increase student learning.
- To extend the capacity of teachers.
- To create flexible school systems that encourage innovation.
- To develop assessment tools that effectively monitor and measure success.

And second, they can help educators and others develop strategies to assess how well reform experiments and programs are working, under what circumstances they have succeeded, and how they might be adapted to other schools and districts. Today's school reform activities will have no long-term impact on how well students are educated until ways are found to institutionalize reforms and extend them beyond the single classroom or school in which they flourish.

What Companies Can Do: Types and Levels of Commitment

Businesses and community organizations support elementary and secondary education with money, people (mentors, loaned executives, and volunteers), material resources, and advocacy. These resources are dispensed through four major types of involvement: grants, program support, partnerships, and coalitions. The matrix below identifies possible links between resources and types of involvement, and many companies may discover that they are already involved in several areas. Appropriate involvements will vary depending on local needs, the capacity of the company to respond to those needs, and the political context within which the business/school relationship is developed.

	Money	People	Material Resources	Advocacy
Grants	■			
Program Support	■	■	■	
Partnerships	■	■	■	■
Coalitions	■			■

Grants

Most corporate foundations and corporate contributions departments support elementary and secondary education, in part, through grants to finance special projects. Companies engaged in grantmaking usually follow three steps:

1. Select appropriate projects to fund through proposal evaluation.
2. Dispense funds to support selected projects.
3. Review evaluations and reports to see how well the project succeeded in meeting its goals.

Corporate grants to precollege education vary widely in the length of time a project is supported and the amount of the grant, from one-time-only mini-grants to teachers to five-year multi-million dollar commitments to major projects. Although elementary and secondary schools may be the ultimate beneficiaries, grants are often made to universities or education organizations rather than directly to schools or districts. For example, a company may fund a university-sponsored summer institute for area science teachers, a reading and writing program for students run by a local humanities council, or a local education fund's after-school minority achievement program.

Grants may be offered through formal solicitations (requests for proposals, or RFPs) or through the recommendations of education consultants. Many corporate contributions departments and foundations list their spending priorities, grant preferences, geographical or other restrictions in readily available directories.

Program Support

Corporations provide broad support to a wide range of programs focusing on students and teachers in elementary and secondary schools and developed by organizations independent of either the school district or the company. In addition to financial contributions, companies often donate equipment and materials to such programs, encourage executives to serve as volunteer board members, or solicit employees to act as mentors or tutors.

Chapters 3–5 include many examples of this type of corporate involvement. For example, many businesses provide mentors as well as money to Career Beginnings, a program designed to help minority high school students prepare for and succeed in college; the National Writing Project benefits from the advice and support of local companies. For over twenty years executives have worked with national and local minority pre-engineering programs, guiding program development and offering financial assistance.

Although program support includes the commitment of people and resources as well as money, it differs from corporate involvement in partnerships. As described in the following section, partnerships require a more fully developed relationship—from planning through implementation—between the company and individual schools or districts.

Partnerships

Business/school partnerships encompass a variety of different relationships, but it is possible to characterize most of them as belonging to one of three primary configurations: adopt-a-school model, project-driven model, and reform model. These are not altogether tidy distinctions: Partnerships change over time, acquiring greater complexity as partners develop a commitment to undertake long-term reforms or shift their priorities to meet the needs and interests of changing players.

The direction a partnership takes, the methods it uses to promote school change, and its success with different strategies all are strongly influenced by local needs and policies. What works well in a medium-sized community may not have the same success within a large urban system. Overall reform principles, however, remain consistent. Below are some general guidelines for companies interested in developing partnerships with schools.

Adopt-a-School. Adopt-a-school model partnerships are usually created between a single company and a single school to provide resources and volunteers to support school activities. Especially within the context of increased government cutbacks in education spending, the adopt-a-school partnership offers schools much-needed resources and important additional adult interaction for students. It is often through an adopt-a-school relationship that school and business people develop the sense of trust and confidence in each other that lays the foundation for other types of partnerships.

The Project-Driven Partnership. Project-driven partnerships are formed to address specific academic or social problems. Often developed through close interaction between school and company employees, they may import successful programs created and tested elsewhere, or they may oversee academic programs run by universities for the schools. Project-driven partnerships are excellent vehicles for enhancing course work and extending learning opportunities for all students involved in the project. They can influence changes in attitudes and practices in the classroom, school, and school system, and they can significantly improve teaching and learning.

The Reform-Model Partnership. Often developing out of relationships established through other types of partnerships, the reform-model partnership focuses on whole-school system change: helping teachers find ways to change the learning and teaching environment in the schools. Reform-model partnerships differ from adopt-a-school and project-driven partnerships in three important ways:

1. They focus on system change by empowering teachers and staff to make important decisions about learning and teaching practices in the school.

2. They seek to change the relationship between schools and the system—by decentralizing decision-making about budgets, curriculum, and personnel, for example. These changes, in turn, invoke the issue of accountability, which leads to reconsidering the roles and responsibilities of school boards, schools, and district administration.

3. They seek to embed changes in the system. While most partnership activities are directed toward enhancing students' educational experiences and helping teachers do a better job in the classroom, reform-model partnerships help schools create changes that become the new status quo — against which the next wave of reforms will be targeted. Part of this new status quo is a receptivity to ongoing, continuing restructuring for excellence.

Coalitions

Within the last five years, businesses in many cities, communities, and states have formed coalitions specifically designed to support education reform. (The Business Roundtable Education Initiative has been instrumental in creating business/education coalitions in over thirty states.) These coalitions, which include community organizations as well as companies, leverage the influence of those outside the education system through consolidated efforts to change existing education policies and practices. Corporate grants support coalition efforts, but more importantly, corporate members of coalitions act as advocates at each political level for reform of educational regulations and for policy changes to support flexibility and to encourage school-based creativity.

Chapter 6 deals exclusively with coalitions and their potential for influencing education policy and supporting local, regional, and state reforms.

The Right Role for Business

To address the serious needs of schools, we must develop both long- and short-term support mechanisms simultaneously. If we truly expect all students to be routinely well educated and prepared for the future as responsible citizens, we must support school-based reforms that change educational priorities and practices within the entire system. These kinds of changes require long-term commitment of time, money, resources, and energy in support of the people—teachers, principals, superintendents, and chief state school officers —who constitute the management team for school reform. Corporations must stand ready to support educators as they decide how to implement change and how to best involve business in the reform process. However, those companies without the resources or interest for such a long-term commitment can enhance the educational experiences of some students and teachers by making one-time grants, supporting individual programs and special projects, and providing gifts of computers and other equipment.

To determine the right level of involvement in education reform, companies need to understand local and state educational needs as well as determine corporate priorities. The next chapter provides a step-by-step analysis of the process by which companies can develop effective strategies for involvement.

> Every single one of us, our companies and organizations are needed to get our education problem turned around. We're needed to bring new and innovative programs into schools and communities. We're needed to serve on school boards, to create summer jobs and internships. We're needed to volunteer our time in classrooms, to be tutors, guest speakers, role models. We're needed to encourage minorities to get into chemistry and chemical engineering. We're needed to speak up and act....There never was a more noble fight than education. And the only way we can win is together.

H. Eugene McBrayer, President, Exxon Chemical Company

Chapter 2

Strategies for Involvement

Know the Local Education Context

Business offers human and material resources that allow schools to significantly improve the education students receive. And, perhaps more important, they provide advice and support that can encourage and sustain schools and districts undergoing significant reform and restructuring. However, as companies become more committed to supporting programs and reforms in elementary and secondary schools, they quickly recognize the political dangers as well as the educational opportunities opened up by their involvement.

Elementary and secondary education in the United States is a local endeavor that becomes highly politicized as many different constituents within a community and state struggle to control academic, financial, personnel, and managerial decisions. Who is ultimately responsible for local educational policy and programs—a superintendent? the school board? What decisions are made by principals or teachers? How much influence do district administrators have on the decision-making process within schools as well as at the district level? What strategies can effectively gain union support for much-needed reforms to ensure high quality teaching in the classrooms? State and federal legislation on educational policies and procedures, as well as the relationship between school districts and the state education department and its administrators, also affect educational practices at the school site. Finally, schools are accountable to the parents and local citizens who expect them to provide an excellent education and healthy socialization for all students.

The politics of education are not the only politics companies need to understand before developing a school program. There are also three aspects of the political world of the corporation to consider. First, the relationship between the company and the community in which it is based—rural, small town, urban, or suburban—must be understood, and the expectations of the community regarding company involvement in the schools should be anticipated. Second, the relationship between plant sites or regional offices to corporate headquarters will influence the depth of commitments of time, people, and money that are possible at the local level. And, third, those individuals responsible for developing the company's education programs and policies must do so within the context of the corporate "education vision."

Clearly, companies need to understand both educational and corporate needs and inform themselves about educational issues and education reform efforts—how and under what circumstances they have been undertaken, and with what success.

Assess Needs

Schools today face a complex set of interrelated academic, financial, and social problems and needs. Without doubt, American students are too often inadequately prepared to understand themselves and the world in which they live, nor are they sufficiently well educated to compete with students from other developed nations. Students from disadvantaged backgrounds struggle with additional difficulties caused by poverty. While disadvantaged students have made some academic gains, they generally are not performing at a level high enough to ensure their full participation as citizens in a democratic society.

To determine how business can best help schools address these problems, educators must clearly identify the needs in their school or district and, in collaboration with others, determine appropriate strategies for dealing with them. It is important at this stage of needs assessment for school personnel to look for causes, not symptoms, of their needs. For example, "high dropout rate" may be identified as a problem a local high school would like to solve, but unless the reasons why students drop out are identified, there can be no practical, measurable ways for companies to help schools encourage students to remain in school and graduate.

Three areas in which schools and districts could identify needs are *people*, including students, teachers, parents, administrators and their roles and relationships within the school; *programs* that are part of the general curriculum or are remedial, that lead to teacher professionalization and develop leadership skills among administrators, or that help establish alternate teaching and learning practices in the classroom; and *facilities*, such as the need for greater and more knowledgeable use of technology, the need for modernized laboratories and equipment, or, in some cases, the need for building upkeep and maintenance.

Gather Information

Only a few years ago those interested in funding programs in K-12 education had to search for useful information on school reform issues and how they were being addressed. Now the problem is reversed — each week seems to bring another set of reports or articles describing educational problems and suggesting how to get involved. Under optimal circumstances, a corporate contributions department or foundation would assign staff to become knowledgeable about local, state, and national education issues, identify programs and reform efforts that seem to be successful, and recognize the elements that contribute to success. The staff would, in turn, work with an education task force of senior executives to determine corporate priorities and appropriate strategies for action. Such arrangements, of course, are often not feasible.

The Council for Aid to Education, among other nonprofit organizations, is available to advise individual corporations on their programs in support of elementary and secondary education. Through publications and seminars, the Council also provides information on promising reform experiments, analyzes the essential characteristics necessary for success, and explores ways to effectively measure how well programs work and under what conditions. An annotated list of appropriate Council publications, as well as resources from other organizations, appear in the Appendix.

How One Company Focused Its Support of Precollege Education

For more than sixty years, Chevron U.S.A. has actively supported educational programs through contributions and grants, free curriculum materials, scholarships, internships, teacher training, and underwriting public broadcasting programs with free classroom guides. In spite of this commitment to education, Chevron, like many other companies, decided it needed to strengthen the effectiveness of its precollege programs by focusing on a specific set of education needs.

The company began the process of narrowing its interests by undertaking a thorough review of both education needs and its own precollege programs in order to determine the type of involvement that would have a positive impact on the schools and also achieve corporate goals. It began its evaluation in 1988 with a three-step process:

1. Investigate key problems facing the United States' education system.
2. Determine how these problems were being addressed by Chevron and other companies, focusing on what seemed to be working and what was not as successful.
3. Identify a program for Chevron that would have a meaningful impact on solving the problems.

By means of this evaluation, Chevron discovered that most of its education support went toward maintaining a status quo and enhancing existing education systems rather than toward helping schools and districts significantly change the way teaching and learning occur. The company then established eight criteria for determining the direction its precollege support program would take. A Chevron program must:

1. Address a widely perceived and critical problem.
2. Direct resources toward major structural reform (not toward the expansion or enhancement of existing programs).
3. Focus on the instructional core of schooling: students, teachers, principals, and parents.
4. Identify objectives that are specific and measurable.
5. Be cost-effective, leveraging both financial and human resources.
6. Address educational needs as they are defined by schools and avoid imposing or mandating corporate interests.
7. Engage the support of the community.
8. Seek to use a linking or coordinating organization if policy reform and/or substantial resources are required.

After examining education reform issues within the context of these criteria, Chevron decided to support the Accelerated Schools Project in several of its sites (see description on p. 23).

Undergoing a similar review process has led many companies to focus their precollege resources on other school-based, system change restructuring efforts like the Coalition of Essential Schools (p. 21), the Center for Leadership in School Reform (p. 30), and the National Faculty (p. 90). Other companies followed a similar self-evaluation before deciding to develop their own restructuring partnerships: Pacific Telesis Foundation (p. 24), Panasonic Foundation (p. 24), and Champion International Corporation (p. 34) are examples of this approach. Other companies have chosen to direct their programs to a specific facet of school reform (for example, science education, teacher training, or preschool and early learning), supporting and creating programs that promote good teaching and learning.

In general, when a company creates a focused program in elementary and secondary education, it needs to follow three basic steps:[2]

1. *Choose* an education-support program that is consonant with education needs and corporate priorities.
2. *Develop* the program by applying business methods of analysis, strategic planning, and management.
3. Establish a system by which to *evaluate* outcomes, identifying the conditions under which the program is successful, and report on what is being learned through supporting this effort.

The following suggestions are intended to provide a guide by which companies can establishing appropriate relationships with schools and districts to encourage the long term educational change we all seek.

Choose an Education-Support Program

Most major companies are already contributing financial and other support for programs or scholarships directed toward elementary and secondary students. Often this support encompasses a broad range of activities that do not have a fully-developed relationship to each other or to an overall corporate education agenda. Consequently, companies become frustrated by inadequate results and the lack of long-term impact that their programs have on improving education. Sophie Sa, executive director of the Panasonic Foundation, identified a source for this frustration when discussing why Panasonic decided to focus on school-based system change: "We became aware that while almost all the projects we funded achieved what the proposals had promised to do, most had no fundamental impact on the school as a whole, because the projects were not linked to any overall vision or plan."

Identify the Problem

The first, and perhaps most difficult, task for a corporation in choosing an education-support program is to limit its options for involvement by identifying the problem or problems it wants to work on. Instead of trying to respond to the vast number of interrelated and complex problems facing the schools, the corporation must select one or two that can sustain its support and interest over several years. The program focus may be closely linked to corporate interests (improving science, mathematics, or technology education, for example, or developing closer transitional links between schools and the workplace), or it may address particular educational needs in a community (restructuring middle schools, establishing effective preschool programs, or helping schools link social services with academic priorities).

Once the company has focused its interests more narrowly, it can determine the outcomes it seeks, examine different approaches toward reaching those outcomes, and select the entry points that relate best to corporate and educational needs. But the benefits to establishing a focus extend even beyond those that allow for better program development. As Patricia Willis, executive director of BellSouth Foundation, pointed out: "One gratifying result of focusing our interests has been the opportunity to work with people and organizations in a way that extends the traditional role of grantmaker. We have fostered a network of persons devoted to similar interests, whether the interest is in middle schools, teacher recruitment, or telecommunications studies."

---

[2] Many of these ideas appeared in greater detail in Chapter 5, "How Can Business Support School Restructuring," of *School Restructuring: Designing Schools for Better Student Learning* (Council for Aid to Education, 1990).

Focus on Desired Outcomes

By defining the problem it wants to address in terms of what needs to be accomplished, a company can more easily begin to develop the appropriate actions that will lead to reaching outcomes. The Council has identified four fundamental outcomes for school reform efforts:

1. **To increase student learning**, which includes focusing on academic achievement for all students, emphasizing student responsibility for learning, creating opportunities for students to participate actively in their studies, helping students develop communication and decision-making skills, and linking academic with social and personal needs.
2. **To extend the capacity of teachers**, which includes deepening subject area expertise, broadening teaching styles, developing managerial experience, and promoting more personal involvement with students and parents.
3. **To create school systems that encourage innovation**, which includes establishing new relationships between schools and districts, developing managerial flexibility, creating support networks for school-based reform, and changing educational policies that hinder effective teaching and learning practices.
4. **To develop effective measurements of academic success**, which includes creating new assessment and accountability systems, rethinking our expectations for learning, establishing baseline data and appropriate methods to monitor progress, and using the information acquired through assessment to change management, teaching, and learning practices.

A number of programs — ranging from small amounts to large amounts of money, from short-term to long-term commitments — can be developed to meet any of these goals.

Identify Available Approaches

There is no single program which, if implemented in every school, will automatically change all schools into centers of academic excellence; neither is there a general formula for program development that can be imposed on companies seeking the most effective involvement with the schools. There are, however, several considerations that can guide companies in the definition, development, and implementation of an education-support program:

1. *Time.* What can be achieved in the short-term? What can be achieved through long-term involvement?
2. *Money.* What kind of financial commitment is the corporation willing to make toward this program?
3. *Personnel.* Does the company want to make employee participation an element of the program? Is it willing to dedicate staff for program implementation, management, and evaluation?
4. *Operating sites.* Will the program be initiated as a model at one site, or at several sites? What plans are in place to scale up and expand the program?

Determining the answers to these and other questions will help a company identify entry points where its support can make a difference and define the type of involvement appropriate to both corporate priorities and education needs.

Choose an Action

In the previous chapter, we described four methods by which companies support educational programs and reforms — through grants, program support, partnerships, and coalitions. The programs described in Chapters 3–6 of this volume are examples of how companies help schools through these avenues. Additional ideas are listed below, linked to the reform outcomes already identified.

To increase student learning, companies can:

- Provide funds to experiment with flexible staffing and schedules.
- Link gifts of lab equipment, books, computer technology, and software to teacher training.
- Use coaching techniques to mentor students.
- Work with mentors and role models to encourage students in risk-taking exercises that develop self-confidence.
- Develop workshops for parents.
- Help connect students to appropriate community agencies.

To extend the capacity of teachers, companies can:

- Bring in experts to expand teachers' skills.
- Provide teacher internships that extend both academic and workplace skills.
- Develop training programs for teachers and volunteers in a variety of teaching techniques, in supporting classroom instruction through mentoring and tutoring practices.
- Fund site visits to exemplary schools.
- Run team-building workshops in the schools.
- Help schools establish, use, and maintain computer networks for teachers.

To create school systems that encourage innovation, companies can:

- Help educators assess needs, set goals, and develop strategic plans.
- Help school districts hire qualified directors for the restructuring process.
- Bring in experts to expand managerial skills.
- Bring in consultants to provide expertise to teachers and staff.
- Help schools appeal for and achieve community support for reforms.
- Provide grants for research on effective strategies for restructuring schools and school systems.

To develop effective assessment tools, companies can:

- Help schools generate, manage, and use assessment information.
- Encourage districts to identify and develop measurable goals.
- Help teachers create performance-based assessment strategies.
- Provide grants for research on effective assessment strategies.
- Work with administrators to institute an interactive evaluation process.
- Bring in statistical consultants to work with schools and districts to identify measurable outcomes and ensure the reliability and validity of assessment data.

Develop and Manage an Education-Support Program

Let us assume that the company has identified the problem it wishes to address, selected a focus for its education-support program, identified the outcomes it seeks, and listed potential activities for involvement. The next step is to develop and manage the program. As corporate support of school reform becomes more professional, both planning and managing programs will become more businesslike. On the planning end, companies will need to have a self-conscious awareness of how they identify, select, and establish appropriate programs. The process of managing an effective education-support program will need to parallel the process of putting together a business plan: develop a strategic plan; identify constraints; monitor, assess, and evaluate outcomes; and report on what is being learned.

Develop a Strategic Plan

A strategic plan for an education-support program, like any business strategic plan, begins by identifying program objectives and outlining a number of ways to reach those objectives. In describing these implementation steps, the company needs to define the scope and sequence of the program: how much money, time, expertise, and energy will be committed toward reaching these goals? And it needs to establish monitoring and assessment procedures to understand how well the program is working at different points within the process. This information can then be used to adjust and modify program development and implementation, time tables, financial commitments, and staffing.

Identify Constraints

Barriers to successful business/school interactions can appear from within the company, the community, and the school system, and the success of any education-support program depends upon the care with which a company has identified potential problems and is prepared to address them. Some of the questions that must be considered before launching a major education-support program include:

1. **Within the company.** Do executives and employees understand the academic and social needs that prompt corporate involvement in education issues? What resources are available? How enthusiastic are employees or management toward programs that support educational reform? Is there an ancillary agenda for the company? Are there opportunities to collaborate with other companies or community organizations, and does the company want to collaborate?
2. **Within the school/district.** What bureaucratic barriers make working at the school level difficult? Are teachers willing to work with those outside the system to develop effective programs? How stable are the student and teacher populations within the school? Is there resistance or opposition to reform efforts from the unions, administration, or school board?
3. **Within the community.** What are the local attitudes toward the schools? Is there support for school reform and change? Are parents interested in changing the schools? What are the racial and economic barriers to change in the community? Are community leaders or parents suspicious of corporate involvement in education? Have educators or community groups staked out their territory or turf in education? What kind of communication already exists among potential network groups?

Monitor, Assess, Evaluate Outcomes, and Report

As business becomes more involved in supporting school reform and committed to changing the education system, it needs to determine the effectiveness of its work through careful and systematic analysis: What actions and projects are under way? How successful are they with respect to which populations? What are the essential characteristics that lead to success? And at what cost are they successful?

This approach to program development paves the way for the companies, as well as educators and others, to learn from the projects they support and to use that knowledge to undertake better projects or extend successful projects to other schools and districts. By its very nature, the process of systematic analysis requires a full description of what was intended and what is actually being done, plus the accumulation of base-line information on the population(s) involved.

As companies begin to implement their projects, they need to understand and record just what they are implementing — how it differs from the project description and how it has been adjusted to fit special conditions. There are six essential assessment steps that yield the kind of information needed to determine how successful the program is, under what circumstances it is successful, and how it (or parts of it) can be replicated in other schools and districts.

1. **Gather base-line data.** In order to know how much is achieved by a program, it is essential that companies begin with a solid set of base-line information about who the participants are (student and teacher populations), where they start out (skills and achievement levels), and what existing resources are available.

2. **Monitor process.** Keep track of how the program is implemented, noting how many of the program's assumptions can be violated without rendering the desired outcomes unobtainable. Describe the differences between the project-as-conceived and the project-as-enacted.

3. **Assess progress toward goals.** Identify benchmarks within the program that will indicate progress toward reaching goals. Make sure everyone involved in the program knows where they are in the time line and, if appropriate, what adjustments will be made in order for the program to meet its goals.

4. **Evaluate outcomes.** Traditional testing and assessment tools can measure some desired outcomes, but other evaluative methods — for example, student performances, interviews, journals, and polls — will provide important information on the implementation process as well as the impact of the program on changes to teaching and learning practices. A method for tracking program participants for several years after project completion would yield much-needed data on long-term benefits.

5. **Use information gathered.** The information gathered through monitoring and assessment strategies will help companies identify ways to keep improvements in place by embedding changes into the system. It will help determine how to implement the program successfully in other sites. And it will lead to extending and developing the program into contiguous areas.

6. **Share what is being learned.** Companies must record what happens in the projects they support so that they can disseminate this information, both positive and negative experiences, to help others develop effective ways to support school reform efforts.

Sharing information about the process of program implementation as well as the education-support program itself can lead to more coordination and collaboration among companies interested in helping schools and districts improve, and such collaboration will, in turn, lead to more effective strategies for system change. Thomas Donahoe, former president of the Pacific Telesis Foundation, describes the great benefit of shared corporate activities: "In support for education, businesses must overcome their reluctance to collaborate with each other, their desire to put their own stamp on a project, because the leverage point for improvement is the system itself, and no independent project or collection of separate projects can generate enough weight to move it. Without collaboration our cumulative impact on education will continue to be less than the sum of our efforts. With it, I believe we have an opportunity to be a formidable agent of change."

Programmatic Opportunities

Chapters 3–5 provide brief examples of the ways in which companies help schools and districts create excellent schools by supporting school-based, system change; by developing and funding curriculum-based and other special programs; by helping teachers, staff, and administrators gain expertise and training; and by providing schools with financial, political, and technical support as they develop closer relationships with the community.

Before describing programs designed to support education reform and school restructuring, it is important to restate the purpose for all this activity: to create excellent schools that routinely provide all their students with the skills and knowledge they will need to lead fulfilling lives.

The Goal: Excellent Schools

In simplest terms, an excellent school is one that exhibits a willingness to examine common practices and make the changes necessary to promote good teaching and learning. It is a place that values academic achievement and the intellectual development of students. Students are encouraged to assume responsibility for learning; teachers know their subjects well and play a central and dominant role in planning and implementing change; and principals and other administrators provide strong, consistent, caring leadership in school-based reforms, and advise, support, and guide the process.

The Programs

The program descriptions in this book appear under ten major reform headings in three categories:

Changing the Nature of Schooling

- School Restructuring
- Governance and Management Strategies
- Business/School Partnerships

Changing Curricular and Pedagogical Strategies

- Science, Mathematics, and Technology
- Reading, Writing, and Student Literacy
- Teacher Recruitment, Education, and Training

Changing the Relationship Between School and Community

- Family Issues and Health Care
- Preschool and Early Learning
- School-to-Work
- College Preparation

Each of the major categories begins with a general introduction discussing the issues in relation to the national school reform agenda and outlining future directions. The subsections feature over one hundred illustrative programs supported by corporate and private foundations in schools and communities around the country that can serve as sources for ideas on how other companies and organizations can support education reform.[3]

---

[3] The programs in *Business and the Schools* are, in general, activities in public schools supported by businesses. Information on programs in public schools sponsored by private schools and universities can be obtained from the National Association of Independent Schools (75 Federal Street, Boston, MA 02110) and the Office of School-College Collaboration, American Association for Higher Education (One Dupont Circle, Suite 600, Washington, DC 20036).

> Incremental improvements here and there won't do anymore. They're important. They're progress. But they're simply not enough. We need reform, restructuring. Call it what you will, we need fundamental change....Business must do more than provide grants and other financial support. We have to apply the knowledge and skills we've gained over the years and that we've honed recently. We ourselves have made fundamental changes to meet the challenges of new technologies, new markets and new competition. What we've learned can be turned to the advantage of America's schools.

John L. Clendenin, Chairman & CEO, BellSouth Corporation

Chapter 3

Changing the Nature of Schooling

Introduction

Concerns about the quality of education are based on a growing perception that public elementary and secondary schools provide students with an education that falls below our former standards and below the academic standards and student achievement rates of education systems in other countries. As a result, many educators and leaders in government and business are calling for education reforms that will guarantee a high level of academic attainment for students in all schools across the country. In most cases, these reforms seek to improve the elementary and secondary school system through changing behaviors, attitudes, and strategies to promote better teaching and learning. Increasingly, the call is also heard for "break-the-mold" schools to be created outside the system and, it is believed, to serve as models for an entirely new approach to schooling in America.

Private support of school-based system change is often directed toward "school restructuring" efforts and/or changes in school governance structure and management practices. School restructuring is an ongoing process, undertaken to change the nature of schooling in order to ensure that all students master basic academic skills, learn to think critically and analytically, and are adept at applying the knowledge and skills they have acquired to problem-solving. Through restructuring efforts, schools and districts are, in effect, striving to reach one of the national education goals endorsed in 1990 by President Bush and the nation's governors: "By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in American will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy." To achieve this goal, restructuring schools are changing *internal school management* (by redefining the roles and responsibilities of administrators, teachers, students, and staff); *school* *policy and practices* (by revising curricular, administrative, assessment, and accountability procedures); and *the school's external relationships* (by extending the school's connection to families and the community at large). Many schools and districts throughout the country are making these changes, although they do not always use the rubric "restructuring" to describe their reforms.

School-based management, an effective tool for restructuring schools, is often a good starting point for corporate support of school-based system change. As districts shift decision-making and accountability to the school level, they need to prepare teachers and principals for assuming new and different leadership and management roles. Corporate partners can fund or actually provide consultants and specialized training to help teams of principals, teachers, staff, and sometimes parents make effective decisions about curricula, scheduling, student/teacher interactions, hiring, and budget allocations.

Business/school partnerships, which often serve as the vehicle for corporate involvement in elementary and secondary education, can also be a path to restructuring. Many corporate partners start out by providing some of the so-called "frills" that schools have had to eliminate because of inadequate state and federal funding, and companies eager to begin getting involved with their local schools will find a number of opportunities for donating money, equipment, expertise, and people. These activities are beneficial to the school and, in many instances, are the most appropriate means of getting involved. But, as Louis V. Gerstner, Jr., chairman and CEO of RJR Nabisco, has said: "Fine tuning, tinkering at the margins, doing what we're currently doing only better — these timid approaches simply are not up to the task of revitalizing an education system that is failing our young people and jeopardizing the future of our nation." As seen in some of the example partnerships described here, many companies are beginning to change their relationships with school partners by challenging them to plan and implement systemic reforms and supporting them throughout the process.

Other sections of *Business and the Schools* feature descriptions of project-driven partnerships focused on certain curricular areas (science/mathematics/technology; reading/writing), specific audiences (students going directly to work; students preparing for higher education; teachers; preschool and early learning), or family issues and health care.

In this chapter the focus is on building within schools and school systems the capacity to change the routine ways in which they operate — both organizationally and within the classroom — so they can do a better job of educating all their students. Companies are learning how to make their traditional business/school partnerships more effective vehicles for promoting such whole-school reform by linking their partnership programs to the reform agenda of the school and school system.

Overview of Program Descriptions

This chapter presents several representative examples of reform experiments directed at changing the nature of schooling. Many of the following programs illustrate how companies provide outright financial support to schools and districts undertaking restructuring; others show how corporations link partnership activities to school restructuring outcomes. As noted earlier in this report, both local needs and corporate ability dictate the type of involvement that is appropriate. These examples are meant to serve as catalysts for companies and organizations seeking to support school-based system change, providing ideas both for corporate-sponsored programs and for funding opportunities.

Some districts, like Jefferson County (Louisville), Kentucky, are engaged in long-term restructuring efforts. Panasonic Foundation supports restructuring at school, district, and state levels in communities across the country. Union Carbide has just begun a ten-year commitment to reform with the St. Charles Parish Schools in Louisiana. And there are expanding networks of restructuring schools organized through initiatives like the Coalition of Essential Schools and the Accelerated Schools.

Other restructuring experiments included in this chapter are more localized, like Pacific Telesis's Education for the Future project in several schools in California; the School Renewal Project in Denver, Colorado; Champion International Corporation's middle school project in Stamford, Connecticut, and Quinnesac, Michigan; and JCPenney's support of school-based reforms in Fort Worth, Texas. Two experiments feature individual schools — the Corporate/Community School (Chicago) and the Public School Academy (Minneapolis) — created, with corporate involvement and funding, to serve as models for public school restructuring.

Finally, some companies — such as RJR Nabisco and Whittle Communications — provide incentives to encourage "break-the-mold" schools intended to recreate school management and operations. America 2000's New American Schools Development Corporation, with grants to be awarded early in 1992, is also designed to promote the reinvention of schooling in America.

Observations

Characteristics of Restructuring Experiments

There is no reform blueprint that can be imposed on every school and district to assure successful restructuring, but there are common elements that characterize the restructuring process and indicate a serious approach to school-based system change. Most of the restructuring experiments described in this chapter demonstrate the following characteristics, even when other aspects of program emphasis and management differ.

- **Emphasis on teacher and staff development**. Teachers are the key to the quality of education available to their students. Within state guidelines, the teacher determines what goes on in the classroom: what is taught, how it is taught, and when students are ready to move on to another topic. Therefore, successful school reform projects work with teachers to help them understand:
  - new roles and responsibilities in school management, curricular decision-making, learning, teaching, and working with colleagues;
  - new expectations and practices designed to improve teaching and learning in the school and new ways to measure instructional effectiveness;
  - new requirements of industry and society for graduating students and what academic changes must be made to better prepare students for work and citizenship.
- **Support for leadership of principal/superintendent/chief state school officer.** Without strong leadership, the reform effort cannot be sustained. Someone must be in charge to guide, support, and encourage teachers and staff through the ongoing changes of restructuring — and this leadership must come from the principal at school-level, the superintendent at district-level, and the chief state school officer. Not only do many restructuring projects include leadership training, but they also seek to protect and sustain the leadership of those who are directing school-based system changes.
- **A focus on outcomes.** Effective restructuring experiments maintain a focus on the essential goals toward which the reform process is moving.

Corporate and other partners can help schools and districts assess needs, set goals with implementation in mind, create a strategic plan to guide implementation with an eye to achieving desired outcomes, and develop effective assessments.

Characteristics of Private Support of Restructuring Experiments

As the examples in this chapter reveal, many schools and districts involved in restructuring experiments receive financial, advisory, and programmatic support from corporations and private foundations. The successful involvement of companies and other organizations in school restructuring efforts is often based on how well they understand their role as a knowledgeable partner helping schools sustain their reform activities. Companies are not in a position to restructure schools, but they can play a supportive role to those who are conducting school reform. Two elements characteristic of successful business-supported restructuring projects are:

- **Encouragement for risk-taking.** Corporate partners or funding agencies help schools explore possibilities, question the status quo, invent new ways for effective teaching and learning to occur, and establish a different environment in the classrooms, the school, and the district. Sometimes private partners provide experienced consultants to work with teachers and administrators, often through intensive staff training and development, helping them make the critical changes to create new schools. In addition, corporate partners can encourage educators to develop assessment tools that will better measure the range of student achievement sought by the reforms, and help parents and the community understand new assessment and accountability standards.
- **Political, financial, and technical support.** School board, parental, and community support is critical for reforms to succeed and become institutionalized. These parties must not only understand what educational changes are being undertaken and why, but they must also recognize their own vested interest in education reform. Sympathetic business and community leaders can help build a variety of different kinds of support for schools undertaking the reform process. They help superintendents and principals sustain a base of political support by working with the school board, mayor's office, teachers union, parent groups, and so forth; they help districts communicate needs and goals to the broader community; and they provide the financial and material support to facilitate reforms.

Future Directions

The optimism generated by reading descriptions of restructuring efforts gives way to realism when these examples are placed in context: There are 103,540 public and private elementary and secondary schools nationwide. Achieving systemic educational change will not be accomplished by creating isolated "excellent schools" within a few districts across the country.

After making some headway with model reform efforts, those corporations and funding agencies supporting educational restructuring need to raise the ante by addressing scale-up issues, discovering how to keep change in place and how to involve higher education in school reform, and expanding school capacities to attend to the needs of all students (both the at-risk and the gifted, as well as those in the middle).

Experience and knowledge gained through early restructuring experiments can help educators — and their corporate and private supporters — build on each set of issues. For example, examining the management needs of schools and experimenting with school-based management models leads naturally to thinking about the management needs of systems: How must districts change to support decision-making at the school site? How must state education departments change to promote and support local academic and management reforms? Developing effective in-service strategies to extend teacher capacity in the classroom leads to restructuring the pre-service education of teachers in colleges and universities.

Both the educators involved in school-based system change and their corporate and private supporters are eager to talk about project successes, but success at one level is only the passport to another, more challenging level of problems. School restructuring and system change is a multi-decade reform process that requires the long-term commitment of school personnel and community and business leaders.

Even defining success can be a complex process. Although assessment has become an essential component of every restructuring plan and partnership project, the relation between assessment and program development is not always clear. To extend the effectiveness of programs, we need to know how programs actually function, under what conditions they are effective, and what difficulties arise in carrying out the program successfully.

Assessments can help corporations and foundations identify ideas worth funding, track the implementation of these ideas, and scale them up from promising models to systemwide change. By following up on their own original investments or the investments of others, companies and private funders can find out how to help new schools and districts adapt effective restructuring practices to their own settings.

Assessment strategies at school and district levels need to be linked closely to the outcomes sought by restructuring. Since, for example, a primary goal of reform is to increase student learning to include critical thinking and decision-making skills as well as mastery of basic skills and acquisition of knowledge, then assessment strategies must extend beyond multiple-choice achievement tests. Assessments could also be used to identify links between increased capacity of teachers and better student learning, or between school-based decision-making and improved student achievement.

School Restructuring

Coalition of Essential Schools

For further information, write:

Theodore R. Sizer
Coalition of Essential Schools
Brown University
1 Davol Square, 2nd floor
Providence, RI 02903

"No two good schools are ever quite alike. No good school is exactly the same from one year to the next. Good schools sensitively reflect their communities — both the students and teachers within the school building, and the wider neighborhood it serves....A good school is the special creation of its own faculty." These statements form the foundation on which Theodore R. Sizer developed the Coalition of Essential Schools (CES) in 1984, a network of schools dedicated to school-based system reform.

Each Essential school develops a restructuring plan appropriate to its own students, faculty, and community, guided by a set of nine commonly held principles regarding a school's overall purpose, curriculum design, pedagogy, and assessment. As articulated in Sizer's *Horace's Compromise* (1985), these nine Common Principles define the characteristics essential to a good school:

1. Schools should focus on helping students use their minds well.
2. Schools should expect students to master a limited number of essential skills and areas of knowledge rather than merely "cover" content.
3. A school's expectations should apply to all students.
4. Teaching and learning should be personalized to the maximum extent feasible; no teacher should have direct responsibility for more than eighty students.
5. The governing metaphor should be student-as-worker and teacher-as-coach.
6. Diplomas should be awarded upon successful demonstration of mastery (an "exhibition") of essential skills and knowledge of the school's program.
7. The tone should stress values of "unanxious expectation," trust, and decency.
8. Principals and teachers should see themselves as generalists first and specialists second.
9. Ultimate administrative and budget targets should include: 1:80 teacher-student loads, substantial time for collective planning by teachers, competitive salaries, and a per pupil cost no more than 10 percent higher than a traditional school.

In their implementation of these principles, successful Essential schools illustrate qualities sought by all restructuring efforts: The school focuses on intellectual achievement; students are responsible for learning; teachers and staff are involved in planning and carrying out changes; small student/teacher groups are created and kept in place over a period of time; a strong principal works to build trust, understanding, and support among teachers and staff; teachers are trained and encouraged to teach cooperatively and use a variety of appropriate teaching methods. To date, some 140 schools from twenty-three states have joined CES; many others experiment with the Coalition's approach to a "bottom-up" strategy to changing priorities.

The Coalition of Essential Schools, in conjunction with the Education Commission of the States (ECS), established Re:Learning in 1988, a long-term effort aimed at encouraging the redesign of statewide education systems to promote better student learning. Through this initiative, ECS and CES work with state, district, and local educators to adjust their practices and policies to ensure that changes made at the school level are longlasting. As of 1991, eight states are formally part of Re:Learning (Arkansas, Colorado, Delaware, New Mexico, Illinois, Indiana, Pennsylvania, and Rhode Island), and nine more are actively pursuing membership.

Funding for the Coalition of Essential Schools and Re:Learning reveals the variety of avenues by which companies and foundations can support the goals of school restructuring. Citibank ($3 million/three years) and Danforth Foundation ($160,000) fund a faculty training project that prepares experienced Essential school teachers and administrators to work with schools beginning to adapt the nine Common Principles to their school setting. DeWitt Wallace-Reader's Digest Fund ($2 million/three years) is supporting the work of CES staff with member and interested schools, including development of regional centers to localize support efforts. Individual Essential Schools receive support from corporate and private foundations for restructuring designed to increase student achievement; Ahmanson Foundation provided a two-year grant ($100,000) for Pasadena High School, and several California foundations — San Francisco Foundation ($76,000); Pacific Telesis Foundation ($10,000); ARCO Foundation ($57,800); and Hearst Foundation ($35,000) — have supported the work of CES coordinators helping local Essential Schools undergo restructuring.

To study schools in the process of change, Pew Charitable Trusts ($380,000/three years) and Circuit City Foundation ($150,000/three years) provide funding for a research-and-support project that will develop exemplars of redesigned Essential schools, based on the experiences of five member schools now nearing full adaptation of the Principles. DeWitt Wallace-Reader's Digest Fund is also supporting a long-term study of three schools in transition, identifying characteristics that support or undermine the change process.

To spread information about the Coalition and Re:Learning to broader publics and education constituencies, Exxon Education Foundation ($1,018,000 over seven years) has funded the outreach by CES staff in workshops, symposiums, and presentations to school faculties, education administrators, state education leaders, and national education organizations. Kraft-General Foods Fund ($556,000/six years) has also supported outreach work by CES staff. Rockefeller Brothers Fund has provided funding ($150,000/two years) for the Coalition's journal, HORACE, which explores CES ideas in practice in Essential schools. Southwestern Bell Foundation ($1 million/four years) has offered challenge grants to states to develop business support for local Re:Learning efforts in school restructuring.

To support effective and innovative assessment strategies, a UPS Foundation grant ($130,000/two years) helps three New England schools develop "exit" exhibitions which will, in turn, be used to refocus and redesign curriculum and course expectations. IBM Corporation made a grant of equipment and cash ($1.1 million/three years) to enable CES staff to work with five Essential schools in designing computer-assisted exhibitions and technology-based information-sharing media for the Essential schools network.

The Accelerated Schools Project

For further information, write:

Henry M. Levin
Director
The Accelerated Schools Project
402 S CERAS
Stanford University
Stanford, CA 94305-3084

Also:
Audrey Goins
Community Programs and Public Affairs
Chevron U.S.A. Inc.
P.O. Box 7753
San Francisco, CA 94120

The Accelerated Schools Project, founded in 1986 by Henry Levin, Director of the Center for Educational Research at Stanford University, is a collaborative approach to help at-risk students become enthusiastic learners and to accelerate their academic performance so that they will achieve at grade level. Instead of relying on the remedial and special classes that traditionally are used for academically unsuccessful students, Accelerated Schools set about reorganizing the entire school based on a commitment to full achievement for all students.

Unlike other school restructuring efforts, the Accelerated Schools Project focuses on empowering the whole school community: teachers, administrators, staff, students, and parents. Together, they generate a shared vision and agree to a common set of goals that focus on creating a caring and challenging environment for learning, academic achievement, and developing the abilities of all students. The whole school community makes the necessary curricular and instructional decisions and changes at the building level.

Although individual schools choose and design the curriculum to suit their individual needs, there are general expectations for all model schools in the Accelerated Schools Project. Problem-solving cadres — made up of teachers, administrators, other school staff, parents, and students and directed by a steering committee — determine the strengths and challenges of the school, set program priorities, and develop and implement appropriate school plans. The curriculum is language-based (even math courses) and emphasis in all classes is placed on reading and writing for meaning. Students have access to all school programs and participate in one curriculum. Parents are active partners in the school decision-making process. The program builds on the strengths and interests of all students, using teaching strategies traditionally reserved for the "talented and gifted"; thus providing enrichment and considerable "hands-on" learning activities for students.

As designed by Levin, the whole school community in accelerated schools work with outside facilitators (trained at Stanford University) to transform the structure of its school and to accelerate the learning of all students. Chevron committed $1.45 million over three years to finance a satellite center project, helping Stanford establish four regional satellite centers whose teams introduce the accelerated model to the school districts that surround them and facilitate the accelerated school process in one or two pilot schools. These centers are located in the colleges of education of four universities: San Francisco State University, California State University - Los Angeles, Texas A&M, and the University of New Orleans. Their experience with the local schools and their expertise in using the accelerated schools model also helps them influence and transform the traditional preparation of teachers and school administrators.

Early results from the pilot period of the Chevron-supported project include dramatic improvement of student attendance, reduction of teacher absenteeism and student retention, increased parent involvement (at one school attendance at parents' night jumped from seventeen to 450), and a steady improvement of test scores (the pilot school in San Francisco had the highest gains in all three areas of the California Test of Basic Skills — reading, language arts, and mathematics — of all seventy-two elementary schools in the San Francisco Unified School District).

Education for the Future Project

For further information, write:

Mary E. Leslie
Executive Director
Pacific Telesis Foundation
130 Kearney Street,
Room 3309
San Francisco, CA 94108

Also:
Elisa Boone
Vice President
Wells Fargo Foundation
101 California Street,
Room 2795
San Francisco, CA 94163

In 1989 Pacific Telesis Foundation created the Education for the Future Project, a partnership with urban, suburban, and rural California schools and districts representing the geographic, ethnic, demographic, and cultural diversity of the state. Education for the Future is designed to demonstrate and showcase the impact of school-site empowerment, accountability, and parent involvement on improved student performance. Instead of imposing a change process on a school or district, the project seeks to create the context and provide the necessary resources for schools and districts to establish a process for change as well as a management strategy that will allow change to happen.

Key to the Project is the belief that student achievement will be improved only by focusing on the way teachers teach and the way students learn. Each school in the Project articulates its education mission and develops a change process, targeting the needs of its students through academic, social, and extracurricular programs. Teams of teachers, staff, administrators, and parents work collectively to determine which issues to address, develop effective strategies to improve the school, and create a performance plan for each category. Project coordinators in each school join the principal and team leaders to form a School Leadership Council, which is responsible for leading the school through restructuring and keeping its programs and projects focused closely on achieving the school mission.

Pacific Telesis Foundation has created two plans to assess the Education for the Future Project. One is designed to measure how well each school succeeds in improving student learning, and the other to monitor the partnership project and how well it helps schools through the restructuring process.

Education for the Future Project was launched in three elementary schools with an initial $2 million, five-year commitment by Pacific Telesis Foundation. By 1991 it had grown to include six elementary schools (one of which is supported by a $200,000/two-year grant from Wells Fargo Foundation) and a middle school. A second middle school is being added for the 1991–92 school year. Pacific Telesis clearly intends to renew its commitment to accomplish its goals.

Panasonic Foundation's Focus on Whole-School Change

For further information, write:

Sophie Sa
Executive Director
Panasonic Foundation
One Panasonic Way
Secaucus, NJ 07094

Panasonic Foundation has entered into five- to ten-year partnerships with seven urban school districts serving large proportions of disadvantaged students and with three state departments of education. The partnerships are designed to help increase the capacity of schools and school systems to plan and implement their own reform programs.

The Foundation works only with those systems that share its commitment to improving learning for all children and to reform that is school-based, but at the same time, systemic. The school must be the locus of reform, with the people inside the schools engaged substantively in developing and carrying out change aimed at improving the school as a whole, not just isolated aspects of it. At the same time, the district must reallocate human and financial resources to the schools, decentralize decision-making authority to school-site personnel, and generally redefine its role and relationships to schools so as to actively promote and encourage school-based reform. State departments of education must similarly examine their practices and procedures in the same context in order to design better ways of serving the needs of districts and schools.

For such commitment, Panasonic Foundation provides its partners with expert technical assistance through seminars, workshops, and visits to exemplary school sites designed to stimulate and provoke critical thinking, increase knowledge and understanding, and nurture the development of local ideas. Although the specifics of each partnership may differ, Panasonic Foundation approaches its relationship with the schools and districts with the same philosophy: first, help the partner assess its needs and examine every aspect of its operations, and then provide ongoing support as schools begin to rethink how to serve the needs of children better, and as each state and district as a system begins the hard work of learning how best to nurture and facilitate school level efforts at reform.

The School Renewal Project of the Public Education Coalition (Denver)

For further information, write:

Susan Zimmermann
Executive Director
Public Education Coalition
1410 Grant Street, Suite A-101
Denver, CO 80203

The Public Education Coalition (PEC) in Denver initiated the School Renewal Project in 1989 to promote broad-based, systemic school reform. Through a competitive application process, nineteen schools in four districts were selected to participate in the project. They were asked to discard their old assumptions and find new and better ways to teach children effectively.

The School Renewal Project is founded on several beliefs about teaching and learning that guide both its policies and practices, including locating the decision-making process with the teachers, staff, administrators, and parents at the school site; accompanying structural reform with instructional reform; helping teachers and students understand that learning is an active process; and ensuring that high standards and high expectations exist for everyone involved in the educational process.

The renewal project includes thirteen elementary schools, two high schools, and four middle or junior high schools. The Public Education Coalition works with each school individually, helping it conduct needs assessments, develop school goals, and begin implementing specific programs. The mission of the project is defined through four goals: (1) to obtain measurable improvement in academic, social, and personal outcomes for students; (2) to create a cadre of empowered, effective administrators and teachers; (3) to create a critical mass of successful, innovative demonstration schools; and (4) to assist in creating systems and structures that support restructured schools over time, that is, to institutionalize changes that achieve desired outcomes. How the project achieves these goals will differ from school to school, but there are common ingredients. The schools share a commitment to increased parental involvement, shared decision-making governance structures, and active learning models designed to challenge all children and help them succeed.

The PEC has been involved in a variety of activities that affect the project as a whole. It hosted workshops for teams of teachers and administrators from the renewal schools to develop school plans together and a training program, Leadership Team, to build the leadership capacity of principals, teachers, and parents by encouraging risk-taking and studying the dynamics of change within organizations. In addition, they held monthly planning meetings for principals, provided each school with a FAX machine, provided small grants for miscellaneous expenses, and worked with an executive loaned by IBM who could devote 20 percent of his time to the project.

The Public Education Coalition designed a project evaluation to assess renewal efforts at the individual schools as well as of the project as a whole. The evaluation will focus on three main questions: What changes have there been in student performance at PEC schools? What major changes have there been in instructional interactions between students and teachers in PEC schools, and how has PEC involvement affected those changes? And what changes have there been in the culture and structure of the schools, and how has PEC involvement affected those changes? The final product of the initial assessment will be individual case studies of each school.

The School Renewal Project receives funding and support from Gates Foundation, Piton Foundation, Adolph Coors Foundation, ARCO Foundation, Hunt Alternatives Fund, PACE Membership Warehouse, Bonfils-Stanton Foundation, AT&T, and Public Service Company of Colorado.

St. Charles Parish/ Union Carbide Model School Reform Experiment

For further information, write:

Denise Goodwin-Hockaday
Public Education Programs
Manager
Union Carbide Corporation
39 Old Ridgebury Road
Danbury, CT 06817-0001

Also:
J. Cressend Schonberg
Public Affairs Manager
Union Carbide
Corporation/Taft Plant
P.O. Box 50
Hahnville, LA 70057

On October 9, 1991, the St. Charles Parish (Louisiana) School System, Union Carbide Corporation, and The Union Carbide Foundation, Inc., formally signed a ten-year partnership agreement to work together to significantly improve the quality of education in St. Charles Parish through major school restructuring. The goal of the partnership is to create, through the transformation of the school system, a national model for school reform and restructuring.

Over the course of a year, Union Carbide and the school district developed the partnership agreement and planned strategies for working together to improve student learning in St. Charles Parish. The vision for the district was based on four basic principles:[1]

- All children can learn.
- Teachers know how to teach all children to be successful learners.
- School curriculum needs to reflect high expectations for all children, and the school must be willing to vary instructional time and teaching strategies to assure academic success.
- Every child must have an advocate.

To raise the awareness and support of the local community for reform, the company and the school board co-sponsored a two-day conference, "Restructuring Our Schools: A Vision for the Year 2000," in New Orleans and invited parents, teachers, political and community leaders.

By signing the reform agreement, the St. Charles Parish School Board has committed the district to:

- Develop and endorse clear performance-based exit outcomes for reaching high levels of performance; by September 1992 the district will have clearly defined standards of performance.
- Develop and pilot effective methods for assessing academic improvement to ensure students are successfully mastering basic skills, learning to think critically and analytically, and performing at a high level. Assessments and data collection over a two-year period will establish a base-line for measuring student achievement and individual school success by September 1994.
- Implement school-based management practices district-wide by the 1994–95 school year, training teachers and administrators in their new responsibilities and roles, and moving the decision-making process to the school site.
- Create an incentive system to reward schools that improve student achievement and to provide additional help and guidance for those struggling to make the necessary changes.

The partnership agreement defined specific roles for both the corporation and the district during the ten-year reform process. The Union Carbide Foundation will provide financial support up to $150,000 a year for ten years. The company will assist the district in its attempt — through public forums, faculty meetings, PTA meetings, and press coverage — to create a climate for restructuring within the system and a support network within the community. Headquarter and local personnel will be available to help schools and the district facilitate the planning, implementation, and assessment of the reforms.

---

[1] Union Carbide Corporation used the Business Roundtable's "Essential Components of a Successful Education System" as it worked with the district on establishing a vision for school reform.

Corporate/Community Schools of America (C/CSA)

Chicago's Corporate/Community School, the C/CSA flagship institution, is a privately funded, tuition-free elementary and preschool that opened in 1988 as a laboratory and model for urban public education.

Founded by Chicago businessmen Joseph Kellman (The Globe Group) and Vernon Loucks (Baxter International), C/CSA believes that schools can succeed, even in difficult inner-city conditions, if they meet certain basic criteria. These include a highly qualified staff that is held accountable for results, a high level of parental involvement, a safe and caring environment, and careful management of resources to meet the needs of each student as an individual. Among its goals: a balanced emphasis on measurable achievement and development, and the creation of a replicable program at a cost per student that does not exceed that of the Chicago Public Schools in the 1991–92 school year.

C/CSA students, aged two through twelve, are randomly selected from the school's attendance area. All class groups have showed progress in standardized test scores. Students who began in the C/CSA preschool program reach grade-level performance at rates as much as triple the local norm. The average daily attendance is 95 percent. Parents from more than 50 percent of C/CSA families volunteer to work at the school, and attendance at parent-teacher conferences exceeds 85 percent.

C/CSA practices have begun to influence the surrounding public schools. The school has initiated a collaborative program to share its findings with a group of Chicago elementary schools. It sponsors professional development training sessions and workshops. The deputy superintendent for operations of the Chicago Public Schools sits on C/CSA's board, and the superintendent has endorsed a continuing, cooperative relationship.

Major corporate sponsors of C/CSA include Aon, Globe, Baxter International, United Airlines, Quaker Oats Company, Commonwealth Edison Company, Sears, Roebuck and Company, Premark International, Inc., Refco, Inc., Rymer Foods, Ronald McDonald Children's Charities, Centel Foundation, and Comdisco. Major foundation support has come from Richard H. Driehaus Foundation and Blum-Kovler Foundation.

For further information, write:

Primus Mootry
Project Director
Corporate/Community
Schools of America
407 South Dearborn
Chicago, IL 60605

General Mills' Support of the Minneapolis Public School Academy

In 1987 General Mills approached officials in the Minneapolis Public Schools to help develop the Minneapolis Public School Academy, an experimental elementary school in the inner city that would test the idea that lower student-teacher ratios and other changes can bring about dramatic improvements in academic achievement. The goal of the model is to bring about greater student achievement and school reform with better use of existing resources. With members of the Minneapolis Federation of Teachers, General Mills employees and school district leaders created a model school in which a teacher has no more than fourteen students in a classroom and is expected to teach all those students all subjects. (Minnesota teachers are dual-certified to teach both regular assignments and specialty subjects. Therefore, except in the most exceptional cases, they are capable of teaching the range of subject areas.) In addition, the school would practice joint decision-making; that is, the teachers and principal would share in making management and curricular decisions. Parent involvement in their children's education would be encouraged through regular meetings, telephones in the classroom, and answering machines on teachers' home phones.

Several problems prompted the creation of this model school. As in most urban school districts, the student population in Minneapolis had become increasingly diverse, and the school district had added a wide range of compensatory programs to provide remedial help and special classes in various subject areas. Even with these additional efforts, the system was having difficulty serving both extremes in

For further information, write:

Reatha Clark King
President and Executive
Director
General Mills Foundation
P.O. Box 1113
Minneapolis, MN 55440

the student population — the brightest and the least able — and the public soon became aware of the low academic achievement of students, the isolation of teachers and principals, and the negative school climate.

With a $350,000/three-year grant from General Mills Foundation providing the resources for training, evaluation, incremental staff costs, and classroom telephones, the Minneapolis Public School Academy opened in the 1988–89 school year with 140 students in kindergarten through fourth grade; fifth grade was added in the second year, sixth grade in the third year. Early results have been positive, and reading and mathematics test scores (using the California Achievement Test) improved dramatically for students in each grade level. Virtually all the parents were satisfied with their opportunities for involvement and expressed satisfaction about the way the school met their child's academic needs. At the end of the third year, the Foundation provided support to extend the Academy into the fourth and fifth years.

As the Public School Academy completed its third year in 1991 there have been some concerns about how faithfully the original goals of the project could be maintained. Class sizes for kindergarten through third grade have edged up to nineteen because of lack of classroom space, and special staff training, which was conducted during the first year of operation, has not continued. Because of the extensive evaluation process employed at the Public School Academy, the cost of educating a student is about 10 percent or $800 more per year than it is in a regular Minneapolis public school. Teachers, parents, and students express strong satisfaction with the level of academic achievement, however, and teachers have an increased sense of dignity and authority. Another positive development is the district's move toward smaller K–6 classes districtwide. In the fall of 1992, all Minneapolis elementary schools will have a teacher-student ratio of 20:1 (down from 34:1), using the Public School Academy model. This change is being funded through new tax revenues made possible by the school referendum passed in the fall of 1990.

These developments districtwide will help settle the questions about how well the Public School Academy can serve as a model for other schools in the system (and in other communities and states). The Public School Academy model is now being tested in the Toledo (Ohio) School District, with a three-year grant from General Mills Foundation. The 1991–92 school year is the first year of that project.

RJR Nabisco's Next Century Schools

For further information, write:

Donna Stelling
Next Century Schools
Administrator
RJR Nabisco Foundation
1455 Pennsylvania Avenue
NW, Suite 550
Washington, DC 20004

Three basic assumptions about education change influenced the development of RJR Nabisco's Next Century Schools program:

1. Fundamentally new "learning environments" must be created which are more responsive to today's children and the demanding world in which they will be expected to survive and function.
2. The learning environments must be created and developed at the school site, emerging out of the needs and circumstances of local communities.
3. These new learning environments must become the rule, rather than the exception, if we expect to achieve systemic change.

The kinds of educational experiments that might result from these assumptions will require entrepreneurial, risk-taking behaviors, and RJR Nabisco acted on its belief that "the most important role business can play in improving our schools is to encourage and fund entrepreneurial change." By establishing the Next Century Schools program, the company sought to encourage and reward changes and experiments that stimulate radical but sustainable innovation in elementary and secondary education.

Next Century Schools was launched in 1989 as a $30 million/five-year challenge grant program established for K–12 schools to undertake bold reforms to improve individual schools based on their individual needs. Fifteen schools in eight states and the District of Columbia shared grants totaling $8.5 million for the 1990–93 funding period for projects aimed at promoting school-based management, special interventions for disadvantaged students, community and parent involvement, teacher development, technological literacy, and curriculum change. The second group of recipients (fifteen schools from thirteen states sharing more than $9.7 million from 1991 to 1994) proposed reform initiatives that included the creation of new learning environments, programs for at-risk students, and new methods to improve mathematics and science skills. The third year of the program will fund programs from 1992–95.

RJR Nabisco Foundation received over 1,600 grant applications for the program's second year of operation. After reviewing all the applications, the Next Century Schools Advisory Board, comprised of leaders from corporate, education, and policy arenas, identifies finalists who submit detailed final proposals. Those schools selected as Next Century Schools receive funding for a three-year term and report annually on their progress. RJR Nabisco has hired a full-time staff administrator to advise and assist schools as they develop their programs, and the McKenzie Group, an education consulting firm, has been retained to help the schools with assessment and evaluation.

The Edison Project of Whittle Schools & Laboratories

For further information, write:

Christopher Whittle
Whittle Communications
333 Main Avenue
Knoxville, TN 37902

In 1989, Chris Whittle, founder and chairman of Whittle Communications, offered the challenge of inventing a new American school. Two years later, the company formed a new business unit, Whittle Schools & Laboratories, designed to accomplish this goal through a massive research-and-development program called The Edison Project.

From 1991–93, Whittle Schools & Laboratories will invest more than $60 million and hire one hundred innovators from education, business, science, and other fields, to create a blueprint that addresses everything from teaching materials to teaching techniques and from school architecture to classroom desks. The following crucial design objectives must be met in building the foundations of the new school:

- The school must provide students with a significantly improved education for no more than the current cost per pupil in the nation's public schools.
- It must be capable of demonstrating improved results by assessment measures including test scores.
- It must have a system for selecting students randomly from a pool of applicants; to assure accessiblity to lower-income students, it must provide a percentage of students with scholarships.

These are the only "rules" that innovators must follow. Subject boundaries, grade levels, support staff, technology, school design, starting ages, and all other elements of schooling are subject to modification, transformation, or elimination.

Whittle Schools & Laboratories will take the resulting blueprint for a new vision of education and make it concrete with teachers, students, bricks, and mortar. The goal is to open 200 new American schools in the fall of 1996, forming a private, nationwide school system that enrolls approximately 150,000 students. By 2010, according to long-range projections, those numbers will have risen to 2 million students on 1,000 campuses nationwide. In addition to a blueprint for the new American school, Whittle Schools & Laboratories hopes to provide contract services for public and private schools; create educational software, hardware, and infrastructure; and establish an ongoing educational-research laboratory for the nation.

Governance and Management Strategies

School-Based Reform in Jefferson County, Kentucky

For further information, write:

Phillip C. Schlechty
President
Center for Leadership in
School Reform
950 Breckinridge Lane,
Suite 200
Louisville, KY 40207

Since the early 1980s, the Jefferson County Public Schools (JCPS) in Louisville, KY, have been engaged in long-term school restructuring activities that touch just about every aspect of the education system: developing participatory leadership at the school site, changing the nature of classroom interaction, developing instructional strategies that emphasize active student learning, training and motivating teachers and principals in new roles, and increasing parental and community involvement in the schools.

Seven high schools are undergoing school-based reforms through their affiliation with the Coalition of Essential Schools (CES, p. 21) and four others are exploring the possibility of joining CES. Teachers from middle and high schools are engaged in a Curriculum Redesign Project focused on implementing the CES principle regarding "students-as-workers," by creating a more thought-provoking curriculum and developing new methods to assess student learning.

Twenty-four schools (elementary, middle, and high schools) have become Professional Development Schools, providing teachers with the opportunity to establish and implement restructuring and to learn new teaching practices (see the description in the Teacher Recruitment, Education, and Training section). And the JCPS/Gheens Professional Development Academy, established in 1985, helps schools develop the capacity for restructuring through a sophisticated training and support system for the district. At the Academy, teachers, administrators, and all system employees participate in staff-development programs focused on school-based management and shared decision-making. One program, Participatory Management Pilot, helps administrators and teachers work in collaboration, through interactive teamwork, toward a common goal of ensuring that each child is successful in doing school work every day. Other schools experiment with different organizational structures such as multi-age grouping, cooperative planning and teaching, "schools within schools," and revised schedules that allot longer blocks of time for learning activities.

Recognizing that the lessons learned in Jefferson County could serve as the basis for a wider effort, Panasonic Foundation, BellSouth Foundation, and Gheens Foundation supported Phillip C. Schlechty, the founding director of the Gheens Academy, in creating a Center for Leadership in School Reform. The goal of the Center is to provide useful ideas about restructuring to national educational and business leaders and others who are concerned about the quality of schooling. In pursuit of this goal, Center staff provide consultation, technical assistance, training, and organizational support — all directed toward facilitating the change process in local school systems across the country.

At present, the Center provides support for projects in twelve cities, in addition to short-term consultation to schools, professional associations, philanthropic organizations, corporations, and local business groups. The Center for Leadership in School Reform has received funding from BellSouth Foundation ($375,000/three years), Panasonic Foundation ($550,000/five years), Gheens Foundation ($54,000/two years), Lilly Endowment ($150,000/one year), and The Ford Foundation ($200,000/three years). In addition, the Center has contracts with Annie E. Casey Foundation to provide technical assistance to schools involved in the Casey-sponsored New Futures Initiative (p. 105) as well as contracts with numerous other agencies and school districts.

JCPenney High Performance Schools Project

For further information, write:

Camille C. Alexander
Contributions and Education Manager
J. C. Penney Co., Inc.
14841 N. Dallas Parkway
Dallas, TX 75240-6760

Also:
Peggy Siegel
Program Director
Center for Excellence in Education
National Alliance of Business
1201 New York Avenue NW
Washington, DC 20005

Don R. Roberts
Superintendent
Fort Worth Independent School District
3210 West Lancaster
Fort Worth, TX 76107

When JCPenney decided to focus its involvement in the search for and implementation of solutions to the problems that face the educational system today, it looked for ways to support fundamental changes in the schools. The company realized that by supporting experiments in school-based management, it would not only encourage change in the way schools are managed but also develop new approaches to learning, involve parents and the larger community in school, and foster reforms of how teachers and administrators are trained, professionals are held accountable for their work, and incentives are provided for improved performance.

JCPenney, in collaboration with the National Alliance of Business and the Fort Worth Independent School District, began a pilot project during the 1990–91 and 1991–92 school years to develop a school-based management model that can be replicated in other cities.

The project provides grants, training, technical assistance, and a communication network to those schools interested in implementing school-based management reforms in their school. The five-step implementation process includes:

1. **Community Kickoff.** District education leaders, faculty, and community members were invited to attend an evening seminar to learn about the purposes of the project, which focused on enhancing Fort Worth's efforts to implement school-based management, an initiative it has pioneered in the district for more than ten years.
2. **The JCPenney Leadership Institutes on School-Based Management.** During the winter, spring, and summer of 1991, the project sponsored five professional development institutes for teaching professionals, central office staff, school-based management teams, building administrators, and principals. Presentations focused on the vision and reality of implementing school-based management from the practioner's perspective at various levels within the education system. The presentations also were designed to encourage schools to submit incentive award proposals.
3. **The JCPenney Awards Program.** The three project partners developed a request-for-proposals process so that interested schools might apply for one of ten $6,000 JCPenney awards. A blue-ribbon panel helped select winning schools, who were encouraged to use their grants to apply their school-based management approach to time-planning, professional training, schoolwide meetings, or other innovations in the learning environment.
4. **Technical Assistance.** The ten incentive awards recipients receive ongoing technical assistance from district, state, and national educational experts, with the Alliance acting as facilitator. Many schools whose submitted proposals were not funded by the Awards Program are working with the district to implement their programs.
5. **Institutionalization, Dissemination, and Replication.** The ten schools are encouraged to share what they are learning, both positive and negative, through their experiments in school-based management. The project will develop strategies to ensure that information is shared not only within the Fort Worth Independent School District but across the state and the nation. To that end, the Alliance will be writing an Action Guide of "lessons learned," which is also designed to help JCPenney and Fort Worth institutionalize their relationship after the project has been completed.

At JCPenney, the project is enhanced by several internal programs including companywide encouragement for employees to volunteer in the schools, special awards for those school volunteers, and technical assistance on decentralized management from company departments other than Public Affairs. Plans are under way to develop programs on education topics that will be televised on the company's direct-broadcast system.

Boeing's Management Training Program

For further information, write:

Bob Hughes
Education Relations
The Boeing Company
MS 11-83
Seattle, WA 98124-2207

In restructured schools, many educators find themselves in positions of leadership in schools and school systems without the management training and expertise they need. To address this need, the Boeing Company recently started a strategic planning and management program for school leaders in districts across Washington State. In this partnership, Boeing developed strategic planning training workshops for five-person teams from the school districts (the superintendent, head of the school board, and three community leaders). At the end of the workshop each team is assigned two consultants, a retired Boeing executive and an educator, to help them develop an implementable strategic plan for restructuring schools in their district.

Other companies have found that their most important contribution to restructuring efforts has been to hire and support a consultant or "change agent," who, with the trust and support of teachers and school leaders, can help all parties negotiate through the restructuring process. But the Boeing program has added a special impetus for success. The five-member team and the consultants sign a contract promising that if the team is unable to assess district needs, define goals, and plan a strategy to reach those goals after twelve months, the district must pay a fee of $7,500 for consulting services. If a strategic plan is successfully developed, consulting services are free. Once the plan has been undertaken, the consultants continue to work with the district through implementation, monitoring, and evaluation.

The Boeing management training program, begun in 1990 in partnership with the Washington School Directors Association and the Executive Service Corps of Washington, has worked with administrators from eleven school districts; nine districts are beginning to implement their reform strategies.

The GTE Education Initiative

For further information, write:

Maureen V. Gorman
Vice President
GTE Foundation
One Stamford Forum
Stamford, CT 06904

In mid-1990 the GTE Foundation announced a four-year, $750,000 program with the Hillsborough County, Florida, public schools to help institute school-based management/shared decision-making as a vehicle to restructure and thereby improve how schools are managed. The project is directed at bringing decision-making closer to the student and establishing clear goals and measures of performance. Principals and teachers would have the opportunity to voice, plan, and implement their ideas on how students should be taught, thereby increasing the schools' educational effectiveness.

The implementation of the project is carried out through four major strategies: (1) providing management training for principals, teachers, and administrators; (2) sponsoring an incentive award to schools demonstrating excellence in implementing reforms; (3) encouraging GTE employees to volunteer to assist those schools that submit school-based management proposals; and (4) working with other businesses and community organizations to advocate and support management reform.

The GTE Education Initiative developed in response to the Business Roundtable's 1989 challenge to its member companies to commit their resources to making fundamental improvements to the schools in one community. Hillsborough County, the twelfth largest school system in the United States, is the site of three

GTE business unit headquarters as well as branches of several other GTE subsidiaries, offering a potential pool of 10,000 GTE employee volunteers. The project, designed by GTE and school district personnel, extends GTE's commitment to precollege education, already in evidence in programs focusing on mathematics and science education, economic education, dropout prevention, and drug-abuse prevention.

BellSouth's Principal Leadership Program

For further information, write:

Clarence O'Banner
Director, Education Affairs
BellSouth Corporation
1155 Peachtree Street NE
Atlanta, GA 30367-6000

BellSouth Corporation, which supports education in nine Southeastern states, meets regularly with education and community leaders to determine those educational problems and concerns that could benefit significantly from company involvement. When asked which BellSouth resources would be most useful for enhancing public education, many school officials targeted leadership training programs for principals. As one assistant superintendent noted, "You can find good principals who are not in good schools, but you can't find good schools that don't have good principals."

Beginning in 1988, BellSouth has offered the Principal Leadership Program to school districts throughout the Southeast. Three hundred principals from elementary and secondary schools have attended the program thus far, and the goal of many districts is that all their principals have the opportunity to participate.

The Principal Leadership Program is an off-site, five-and-a-half day program held alternately in Asheville, North Carolina, and Callaway Gardens, Georgia. Specially trained consultants begin the program by demonstrating and explaining innovative, team-based problem-solving techniques as well as different leadership styles that can be adapted to varying situations. For part of the program, principals work with managers from BellSouth divisions and companies; other segments of the program have been developed specifically for the principals. Through classroom instruction and outdoor experiences, the program helps principals discover how they are perceived by subordinates and peers regarding leadership-related issues, helps them develop a strong sense of the meaning of leadership, and teaches them the importance of teamwork and how to share decision-making.

A recent evaluation of the program, which surveyed and interviewed principals and superintendents, indicated that the Principal Leadership Program is viewed as a highly successful way to help principals develop leadership skills and confidence in their interactions with teachers, staff, parents, and students.

The long-term impact of this program on school management has not yet been determined, and there may be ways that a district can develop effective strategies to follow up the training program and to support principals who attempt to implement new management models at the school site.

Business/School Partnerships

Champion International Middle School Partnership

For further information, write:

F. James Hoffmann
Executive Director, Middle School Partnership
Champion International Corporation
One Champion Plaza
Stamford, CT 06921

In the process of seeking an appropriate focus for its precollege education programs, Champion International Corporation staff reviewed and studied *Turning Points: Preparing American Youth for the 21st Century*, a report by the Carnegie Council on Adolescent Development. Champion used the Carnegie report, which suggested important ways in which schools and teachers needed to change their attitudes and behaviors in working with children aged ten to fifteen, as the impetus for its commitment to the reform of middle school education in two of its plant communities, Stamford, Connecticut, and Quinnesec, Michigan.

The company hired a former middle school principal as a full-time staff consultant and executive director of the partnership to help them work with the school district in developing an effective program for improving the middle schools. They also assigned a full-time company employee to coordinate Champion's $1.55 million commitment over five years to the middle school partnership. (Two other partnership members, St. John's Community Foundation and Fairfield County Foundation, have pledged $200,000 and $250,000 respectively for three years.)

Key Carnegie recommendations served as the anchor for developing the Middle School Partnership Project. As the Carnegie report advised, the middle schools would center on creating small communities for learning, teaching a core academic program, and ensuring success for all students. They would be staffed with teachers who are expert at teaching young adolescents, and those teachers and administrators would be empowered to make decisions about the experiences of middle grade students. And, finally, the schools would foster students' academic performance through special attention to health and fitness, by reengaging families in the education of young adolescents, and by linking schools with communities.

The steering committee of the Middle School Partnership Project, whose nine members include school, company, and community representatives, determined the project mission — to provide superior education to every middle school student in Stamford. The goals of the partnership are to develop an exemplary middle school education model based on Carnegie recommendations; to create a new magnet middle school emphasizing mathematics, science, and technology; and to provide the support and structure necessary for all middle school students to achieve academically and develop feelings of self-worth and pride of accomplishment.

Several strategies were planned and are under way to reach partnership goals. Outside educators and consultants are brought in to run seminars for teachers and staff, on topics ranging from teaching strategies ("The Nature of the Middle School Learner" and "Teaching Thinking Skills to Early Adolescents") to restructuring schools by creating small units within larger schools and empowering teachers through team-building and interdisciplinary teaching.

The partnership combines training programs that focus on fundamental changes in management, organization, and teaching strategies on the one hand, with support activities of a more traditional nature on the other. For example, to provide additional academic support for those middle school students in the at-risk population, it sponsors after-school tutorials that provide remedial instruction in basic subjects by high school students, as well as a summer tutorial and enrichment program that combines academic, athletic, and recreational experiences for middle school students.

And to create a support structure for students, the partners are hiring community liaisons who will help link schools and families through home visitations, telephone calls, and counseling with parents and students. Parental involvement programs have been developed under the aegis of the Stamford Urban League, whose "Project Boost" provides a support group network for parents.

The link between school and community is central to each aspect of the middle school plan, and the partners have assisted in developing effective communication strategies among teachers, parents, board of education members, business, and central office administrators.

CIGNA Neighborhood School Partnership

For further information, write:

Arnold W. Wright, Jr.
Executive Director
CIGNA Foundation
One Logan Square
Philadelphia, PA 19103

Like many major employers, the CIGNA companies are facing an increasing shortage of qualified candidates for entry-level and nonmanagerial positions. Future projections show that the "talent gap" is likely to worsen as the school-age population declines, the drop-out rate increases, and jobs grow more complex, requiring greater reading, writing, math, and analytical skills.

In response to this growing need to strengthen America's public school system, the CIGNA Foundation has developed several programs focused on public education, including the Neighborhood School Partnership. Begun in 1989, the Partnership is a three-year, $1.5 million commitment to assist students in five schools in one South Philadelphia neighborhood. The partnership is designed to work with students from preschool through high school in an effort to influence their careers over the long-term.

The Partnership provides educational and cultural enrichment programs for students; professional training for teachers, principals, and non-teaching staff; tutoring and mentoring for students; volunteer services by CIGNA employee and retiree volunteers; and staff and student recognition programs.

A number of different programs are being implemented in these areas, including daycare centers for the children of high school students who wish to complete their schooling. Over one hundred CIGNA employees and retirees volunteer their time to work with Partnership students, and teachers and administrators participate in CIGNA's in-house management training programs. Students are encouraged to participate in cooperative, intern, and other work-study programs, and the Partnership's mentoring component is designed to assist students in learning about the world of work. In 1991, CIGNA set aside as many as twenty jobs for qualified graduates of the Partnership high school.

CIGNA Foundation, through its corporate philanthropy role, encourages not only community, business, cultural, and educational organizations but also retirees, family members, friends, and other interested individuals to join the Neighborhood School Partnership.

Citibank's "Banking on Education"

For further information, write:

Paul M. Ostergard
Vice President and Director
of Corporate Contributions
Citicorp U.S.A.
850 Third Avenue
New York, NY 10043

Since the publication of *A Nation at Risk* in 1983, Citibank began shifting more of its resources toward education. By 1990 almost 60 percent of the bank's giving went to schools and universities, with one-half targeted to elementary and secondary education. Citibank's first projects ranged from teacher training to cultural outreach and have included support for materials, tutoring, and mentoring. Although these projects produced excellent results on a scattered basis, Citibank was concerned that its effort lacked focus and continuity. In 1990 the bank launched "Banking on Education," a 10-year, $20 million commitment directed toward two broad goals: strengthening school partnerships with inner-city schools to assure that students are college-ready or work-ready when they complete school, and supporting systemic reform with radical experiments to revolutionize classroom teaching and strengthen school accountability.

In the school partnership component of "Banking on Education," Citibank resources — money, volunteer tutors and mentors, and links to community and cultural organizations — are used in the precollege area to encourage schools to develop programs designed to fit the particular needs of students and faculty. These programs might include Saturday or after-school instruction in mathematics, science, and communications; SAT preparation; and special tutoring. In the school-to-work area, schools design programs that provide co-op, work-study, and office technology training for students interested in moving directly from school to work. They also encourage students to seek extended educational opportunities at two-year technical or community colleges to expand their options. Students in participating partner schools are eligible for Citibank scholarship funds set aside at some universities, including United Negro College Fund schools, which Citibank supports with eighty scholarships and mentoring.

The systemwide change component of "Banking on Education" focuses on two national initiatives: a school-based management project and a classroom revolution initiative. In the first, Citibank has committed $7.2 million over five years to underwrite strategic planning in thirty school-based management schools (ten each in Chicago, Illinois, Washington, D.C., and the Miami, Florida, area). The project will help principals, teachers, parents, and community leaders focus public resources to improve student performance, and it will institutionalize school-based management to help districts decentralize decision-making and accountability.

As mentioned earlier (p. 22), Citibank is providing $3 million over three years to expand teacher training for the Coalition of Essential Schools, emphasizing new techniques to encourage students to take more responsibility for their own education and to learn to think clearly and communicate well.

Citibank is also underwriting a number of school projects for at-risk students and enlisting volunteers to mentor students. Initiatives include a partnership with "The Door," a social service agency for youngsters in Lower Manhattan, and with the New York City Board of Education, to operate an alternative school for up to 250 youngsters who had earlier dropped out of school. The bank also helps youngsters gain GED certificates and jobs with Covenant House's "Rites of Passage" program in Manhattan, and at "Flowers with Care" in Queens, New York, among others.

Rockwell International's Education Initiative

For further information, write:

B.J. Snyder
Manager, Corporate
Community Relations
Rockwell International
Corporation
2230 East Imperial Highway
El Segundo, CA 90277

After Rockwell International Corporation established an education task force to review the company's role in primary and secondary education, it identified three goals in terms of which Rockwell and its employees could make a greater contribution to schools: to enhance the knowledge, skills, and experience of teachers, especially in science and mathematics; to increase student interest and achievement, again with a focus in science and mathematics; and to improve educational processes and teaching methodology. These educational goals were supplemented by an internal corporate goal: to increase the participation of Rockwell employees and retirees in the education process.

The science and mathematics focus of the Rockwell Education Initiative is not surprising in a company that recruits about one thousand science and engineering graduates a year. Many of the partnership activities encouraged by the initiative were already under way at various Rockwell locations: teacher grant programs, training programs, teacher internships at Rockwell facilities, support for curriculum development especially in mathematics and science, and updated equipment. Rockwell sponsored student competitions in mathematics and science and provided student internships at plant sites, scholarships, and advanced career training programs for high school students. Rockwell partnership activities ranged from programs designed to regenerate an enthusiasm for scientific studies in American schools to programs seeking to provide remedial instruction and one-on-one tutoring and mentoring for students who need help mastering basic skills.

The purpose of Rockwell's Education Initiative is to share company resources and experiences in an effort to generate a sense of adventure and purpose in scientific studies and in the pursuit of careers in science and math. And, like other corporate partnership programs, the key to a successful Rockwell partnership has been the active and sustained involvement of school, industry, and community on the local level. For example, a Rockwell grant helped to establish the California Academy of Mathematics and Science (CAMS). The Academy's mission is to increase the nation's pool of graduates in mathematics and science by offering an intensive, college preparatory education to motivated high school students, particularly underrepresented minorities and women. Located on the campus of California State University - Dominguez Hills, CAMS recently graduated its first freshman class of 120 students. Each year a new freshman class will be added to bring total enrollment in grades 9–12 to 450–500 students by 1993–94. In another Rockwell-sponsored program, scholarships have been established for top graduating seniors interested in pursuing science or engineering related careers. Through this and other partnerships, Rockwell people bring the world of work into classrooms by acting as mentors and classroom speakers, and by providing teacher workshops, videos, and other resource materials.

Rockwell has not limited its involvement to traditional partnerships, however, and plans to underwrite and selectively participate in projects that seek to address the design or redesign of the educational process within schools as well as to underwrite research needed for educators to develop more creative and cohesive curricula and more effective teaching methodology.

In addition to these school- and district-level activities, Rockwell launched a national advertising campaign in print and TV to spotlight education and encourage individuals and companies to support schools in their communities. The ads also offer information on a variety of educational programs that can use help.

International Paper Company Foundation: A Thirty-Eight-Year Commitment to Education

International Paper Company Foundation has supported education partnerships in selected plant communities since 1953. Through this effort, which has evolved into today's Education and Community Resources (EDCORE) Program, the Foundation has awarded more than $15 million to public education. But EDCORE goes far beyond the allocation of dollars. Focusing each year on a program theme, EDCORE seeks to encourage cooperative and active efforts among students, faculties, parents, business representatives, social service agencies, and the local media. Employees from local International Paper facilities work closely with teachers and staff in planning, developing, and implementing activities.

For the 1991–92 EDCORE program, International Paper Company Foundation received over 290 grant applications in three categories: John Hinman Teacher Fellowships, designed to encourage and support teachers as they develop innovative education methods for the classroom or pursue professional development opportunities; EDCORE School Projects, which focus on ways to improve the instructional program through school-based projects; and Open Opportunity Grants, available to districts for multi-school or districtwide education improvement projects. Schools in forty districts, mostly in rural areas, in twelve states received 1991–92 EDCORE grants ranging from $500 to $9000 for a wide variety of projects. (The maximum any school district can receive is $23,000.) Projects funded include hands-on science programs in elementary and secondary classrooms, global literacy programs, programs to promote parent education and involvement, physics and technology education, and community history projects in high schools.

In addition to the EDCORE grants program, International Paper Company Foundation sponsors an annual conference for EDCORE participants, offering workshops on grant writing, on current education issues, such as site-based management procedures, and on how to integrate such instructional models as cooperative learning, direct instruction, alternative learning styles, and utilizing critical thinking skills. EDCORE Grant Writing Awards are offered to recognize and reward both the spirit of participation and the achievement of excellence.

For further information, write:

Sandra C. Wilson
Vice President
International Paper Company
Foundation
Two Manhattanville Road
Purchase, NY 10577

The W. H. Brady Education

When the W. H. Brady Co. decided to undertake a school partnership in 1990, it considered carefully what it hoped to accomplish through a partnership and, working with the Greater Milwaukee Education Trust, developed a company plan for involvement. After establishing its partnership goal — to serve the school as a catalyst for education reform — the company established several clear-cut guidelines to direct employee participation, contributions of money or materials, or other corporate involvement in education.

- Company involvement will seek to improve the learning environment in ways that can be measured.
- Improvements or changes that result from partnership activities should become institutionalized in the school or system, or lead to changes that could be institutionalized.
- Partnership activities should be directed, whenever possible, to the causes of educational problems and not to the symptoms.
- Company involvement will seek to extend the capacity of teachers.
- Partnership activities should employ innovation or creativity rather than traditional responses to educational needs.
- The company should seek to involve teachers, administrators, and parents (and governing bodies, as appropriate) in the partnership.

For further information, write:

Daniel C. Wink
Manager, Corporate Relations
W.H. Brady Co.
727 W. Glendale Avenue
P.O. Box 571
Milwaukee, WI 53201-0571

These guidelines were established to help the company extend its involvement in the schools beyond traditional activities and to support reforms that will lead to permanent change. In its partnership with Silver Spring Elementary School, W. H. Brady Company (with assistance from the Milwaukee Area Technical College) is focusing on ways to help school personnel change teaching and learning strategies and the academic environment of the school.

The W. H. Brady/Silver Spring partnership began with a company-sponsored all-day in-service workshop for teachers. A consultant from the U.S. Department of Education was invited to present ideas for innovative teaching and to work with teachers as they developed plans for implementing these ideas in their classrooms. Throughout the school year, the partnership continued to build on this beginning.

W. H. Brady Co. employee volunteers serve as liaisons and resource people for each classroom, participating in classroom activities several hours each month. Through one partnership program, students are learning about the American economic system first-hand by forming and running classroom businesses. In addition, teachers are exploring ways to implement "theme teaching" on a school wide basis; the school has instituted teacher innovation awards program; and school staff are included in Brady's Wellness Program. Finally, the school has integrated an intermediate class for learning-disabled students into a combined fourth/fifth grade class, with participating teachers given sufficient resources and responsibilities to benefit all their students.

Mead Education Initiative

The Mead Education Initiative, a five-year commitment of Mead Corporation Foundation, seeks to improve the classroom experience and performance of elementary and secondary school students and to encourage school reform in communities where Mead businesses operate, by combining money from the Foundation with volunteerism by Mead employees.

Launched in 1990, the Education Initiative focuses on four goals: to improve student achievement, enhance teacher development, raise curriculum standards, and increase employee involvement in education. Although coordinated and funded through the Foundation, the program encourages Mead employees to work with their local school districts and communities to create action plans that address the specific needs and problems within their districts. Suggested activities include creating "Windows on the World: The Mead Employee Teacher Resource Program," linking Mead employees and resources to classroom activities; a Teacher Initiative Grant program, designed to encourage teachers to develop and try new ideas in the classroom; Community Excellence in Education Grants that might be used to fund teacher training, curriculum development projects, or other special programs for students and teachers; and Teacher Excellence Awards, with special recognition grants and ceremonies for excellent teachers.

Mead Corporation Foundation has also instituted a small grants program to encourage employees and their spouses to volunteer in classrooms from preschool to twelfth grade, in private and public schools systems. Mead Volunteers for Pre-College Education provides a grant to employees and their spouses for thirty hours per year of volunteer time spent working in a school or on an educational project. The $300 grant is awarded to the employee volunteer to present to the school at which he or she volunteered.

For further information, write:

Ronald F. Budzik
Executive Director
The Mead Corporation
Foundation
Courthouse Plaza Northeast
Dayton, OH 45463

GE's Partnering with Parents for Student Success

For further information, write:

Phyllis McGrath
Precollege Program Manager
General Electric Foundation
3135 Easton Turnpike
Fairfield, CT 06431

General Electric Company has come to recognize a problem that teachers have identified as a critical barrier to the academic success of students: the lack of support and involvement in education on the part of parents and guardians. Working with local educators, the GE Appliances division decided to create a partnership specifically focused at improving the academic and behavioral performance of elementary students through the increased participation of their parents in school-related activities.

Partnering with Parents for Student Success, funded by General Electric Foundation, operates as a partnership between Gavin H. Cochran Elementary School (a public school in Jefferson County, Kentucky) and the company to meet three goals: to increase student learning in mathematics, reading, and science; to decrease the number of days students are absent from school; and to decrease the frequency of student discipline referrals. The partnership also has several secondary objectives, such as: to improve parenting skills, especially as they relate to education; to help parents accept their responsibility as co-teachers of their children; to increase parental involvement in school events; and to encourage parents to enroll in adult education programs.

The partnership mixes work with fun as parents meet a couple of times each week to learn how to supplement school programs with educational activities in the home. The parents visit the public library and the zoo; attend seminars led by reading specialists, psychometrists, and other educational experts to learn how to support their children's educational development and how to work through problems at home; learn how to construct and use a number of simple learning aids to use at home; and receive training in how to read with their children at home.

Both parents and teachers have been positive in their assessment of the partnership, noting that the project has helped parents gain more confidence in participating actively in their children's school and has strengthened the relationships between family and school. Early test results did not reveal any appreciable differences between the scores of students whose parents participated in the project and those whose parents did not, but behavioral differences were noticeable — student attendance and discipline were greatly improved for those students whose parents were active in the partnership.

The project, which began in 1988, has flourished through the involvement of retired volunteers from the GE Community Volunteer Service Center and active employees who are able to work one-on-one with parents and offer encouragement and support. Based on the success of Partnering with Parents at Cochran, the district has replicated the program in other elementary schools in the county.

First City Bancorporation and the School Savings Program

For further information, write:

Christi L. Davidson
Vice President, State Director,
School Savings Program
First City, Texas - Austin
P.O. Box 1727
Austin, TX 78767

First City, Texas Bank in Austin wanted to create a program for elementary school students that would link corporate interests with a concern to help local schools. It found a successful model in the School Savings Program, created originally by Model Classrooms in Bellevue, Washington.

The School Savings Program for elementary school children is designed to teach basic fundamentals of finance, practical money management, and financial responsibility (including the importance of saving) through both classroom instruction and students' experiences. A School Savings Program curriculum enhances classroom instruction while building on students' banking experiences. Every week, on a designated "bank day," students make deposits to their personal savings account using school computers. First City, Texas provides an initial deposit for each student so that all students are able to participate. The savings account ownership is in each child's name, and the bank waives the quarterly service charge. In the program, only deposits are made at school; withdrawals and deposits can be made at any First City, Texas location, although parent or guardian signatures are required for all withdrawals.

Student savers receive quarterly account statements mailed to their home addresses and are encouraged to compare their savings registers and deposit receipts with the transactions shown on the statement. First City, Texas supplies classroom materials and support for teachers to instruct students how to manage their accounts and how to read their receipts and quarterly statements. Parent-Teacher Association (PTA) volunteers assist in the program's implementation, serving the role of teller.

First City, Texas piloted its School Savings Program in 1989 in three Austin schools with 708 students participating. During the school year, students collectively saved over $45,000. Based on the success of the pilot program, the bank expanded the program to include forty-eight elementary schools in nine other major Texas cities (El Paso, Midland, Dallas, Houston, San Antonio, Beaumont, Bryan, McAllen, and Corpus Christi). Over 12,000 elementary school students (K–6) collectively saved $500,000. For the upcoming 1991–92 school year, the School Savings Program will expand to include ninety elementary schools. The First City, Texas School Savings Program has recently been chosen to serve as a national model for the Bush Administration's upcoming "Save for America" campaign, which is designed to create a new generation of savers.

The Cabrini-Green Tutoring Program

The Cabrini-Green Tutoring Program, begun in 1965 by a small group of Montgomery Ward employees, is now entering its twenty-seventh year of tutoring elementary school children of the Cabrini-Green neighborhood in Chicago, Illinois. The purpose of the program is to provide weekly, one-on-one tutoring sessions and group activities to stimulate the children's desire to learn, and to develop self-esteem and friendship with adult role models. Over 2,900 second to sixth grade students of African American heritage have participated in the program since its inception.

The children meet once a week with a tutor who is their mentor and role model for an entire year and, in some cases, several years. The adult volunteers who serve as tutors come from over one hundred organizations and represent a wide variety of professional and business backgrounds. Major Chicago corporations — such as AT&T, Avondale Savings Bank, Boston Consulting Group, Goldman, Sachs & Co., Inland Steel, Johnson & Higgins, Montgomery Ward, The Quaker Oats Company, Sears, Roebuck and Company, and Trans Union — have significant volunteer representation in the tutoring program.

Historically, the program has been administered entirely by volunteers. Between 1970 and 1983, enrollment was over one hundred children a year. Since 1984, enrollment has more than doubled to an average of 240 children, with 340 adults serving as tutors and coordinators. This past year, enrollment was 319 children and 400 adults, and it is expected to grow again next year.

As the tutoring program has grown, several changes have occurred. A full schedule of enrichment and experience activities has been added, including a speakers/role model program, a computer learning center, field trips to cultural events, writing and art programs, and seasonal parties. An emphasis on minority participation and leadership has led to a doubling of the percentage of African American men in the program. Parent participation has included parents supporting tutoring sessions either as staff or by escorting children to sessions; over one hundred families participate in the orientation program. A third night of tutoring was added in the fall of 1991 to handle anticipated growth, and universities such as Columbia College of Chicago have formed partnerships with the program to provide professional support and expand service capacity.

The Cabrini-Green Tutoring Program goal is to motivate other corporations to start similar programs in Chicago and throughout the country, using the Montgomery Ward example as a role model. The program enjoys the participation of many government and business leaders, with visits by Mayor Daley of Chicago, CEOs from Chicago-area companies, the heads of the Chicago Housing Authority and the school board, and City Treasurer Miriam Santos, eclipsed in the children's eyes only by the participation of actor Joe Mantegna, who serves on the program's Advisory Council.

For further information, write:

Daniel F. Bassill
Executive Director
Cabrini-Green Tutoring Program, Inc.
844 N. Larrabee, Location 1-1
Chicago, IL 60610

PepsiCo's Partnership Programs

For further information, write:

Jacqueline R. Millan
Manager, Corporate Contributions
PepsiCo, Inc.
Anderson Hill Road
Purchase, NY 10577

In 1985 PepsiCo decided to focus its corporate giving on those organizations and areas in which employees volunteered their time and involvement. Support of precollege education is evident through individual partnership programs run through PepsiCo divisions and reflects a diversity of interests.

Through Pepsi-Cola's "Pepsi School Challenge," two high schools serving disadvantaged and minority students, one in Dallas, Texas, and one in Detroit, Michigan, are part of a pilot tuition incentive program designed to help reduce high dropout rates. The program provides tuition credits of $250 per student per semester for students who stay in school, maintain passing grades, and stay drug-free. The credits can be used for further education or job training upon graduation from high school, and teachers who help students achieve educational goals receive honoraria for their efforts.

A Pepsi bottlers program, "Learn and Earn," helps teachers and students apply lessons from school to workplace through Distributive Education Clubs of America. Pizza Hut's reading incentive program for elementary school children, "Book It!," encourages children to meet reading goals and win free pizzas and other prizes. KFC (Kentucky Fried Chicken) was the first corporate sponsor for D.A.R.E. (Drug Abuse Resistance Education), which helps young people resist pressure to use drugs. Taco Bell established special programs in North Carolina to educate parents in helping children remain drug-free, and Frito-Lay encourages employee involvement in several adopt-a-school and mentoring programs.

I believe there is no shortage of bright, capable young people — our objective should be to show them how exciting it is to understand the laws that govern the natural phenomena in the world in which we live; how exciting it is to create utilities that help our fellow humans; how exciting it is to make this world a better place in which to live.

George M.C. Fisher, Chairman and CEO, Motorola, Inc.

Chapter 4

Changing Curricular and Pedagogical Strategies

Introduction

The programmatic focus on teachers, central to many of the restructuring projects described in the previous chapter, illustrates the significant role of skilled, knowledgeable teachers not only in assuring high student achievement but also in the potential success of reform efforts. Columbia Teachers' College professor Dale Mann acknowledged their influence when he observed, "The California Business Roundtable may be more powerful than a locomotive, the San Francisco Education Fund may be able to leap tall buildings in a single bound, but the teacher and the students hold a kind of 'classroom kryptonite.'"[1] Business-sponsored programs in the schools are unlikely to promote long-term system change without focusing on teacher/student interaction and aiming to improve instruction.

In recognition of this central role of teachers, many of those concerned about K–12 education have supported and developed in-service programs designed to assure that teachers know their subjects well and feel confident teaching their subjects to students with varying degrees of preparation for the course. These in-service programs often provide teachers and, through them, students with high quality teaching and learning experiences. But what has not happened until recently is any consistent effort to draw on classroom teaching strategies and practical insights in order to inform teacher education programs. At present, only a frail link connects the best current classroom practices on the one hand, and the way future teachers are trained in college and university teacher education programs on the other.

Most of the projects described in this chapter are designed to improve student learning by extending teacher capacity and expanding course options and curricular strategies. Some programs help provide teachers with the up-to-date knowledge and skills they need to teach students (especially minority and female students) who are most at risk of dropping out of school because they lack basic skills in mathematics, science, reading, and writing. Other programs help schools provide students with additional opportunities to practice scientific research, think creatively and scientifically, and learn advanced mathematics and writing skills.

---

[1] Dale Mann, "Business Involvement and Public School Improvement, Part 2," *Phi Delta Kappan* (November 1987), 231.

Overview of Program Descriptions

The first two sections of this chapter describe programs in key subject areas: Science, Mathematics, and Technology; and Reading, Writing, and Student Literacy. The third section looks at issues related to instruction more broadly: *Teacher Recruitment*, Education, and Professional Development.

The chapter includes a number of examples of how schools and districts are changing teaching and learning activities for teachers through in-service programs (many focused on specific subject areas) or pre-service programs (at colleges and universities), and for students through in-school and after-school academic enhancement programs. These examples may provide a starting point for interested companies and organizations, whether they are looking to sponsor their own programs or prefer to identify other funding opportunities.

Science, Mathematics, and Technology Education

A central goal of most school reform efforts is to raise the mathematical and scientific competence and literacy of all students (hence, all Americans) by providing them, beginning in early elementary school and sustained through four years of high school, with a sequenced, "hands-on" science and mathematics curriculum. President George Bush and the nation's governors identified mathematics and science achievement as one of the national education goals: "By the year 2000, U.S. students will be first in the world in science and mathematics achievement."

There are literally hundreds of programs designed to help schools increase the number of students successfully taking courses in science and mathematics and to expand the knowledge and ability of teachers in these areas. Science and mathematics programs that target students — whether in elementary, middle, or high schools — often focus on those who need additional support to achieve success in quantitative subjects (like special programs to encourage more female and underrepresented minority students to participate in science and mathematics classes). Most of these programs involve *after-school and Saturday* science and mathematics classes; science-centered visits to companies, museums, and colleges; and special efforts to involve parents in students' science experiences.

Science, mathematics, and technology are dear to corporate interests, as reflected by the number and variety of programs described in this section. The successful track record of the Mathematics, Engineering, and Science Achievement (MESA) program is due, in part, to long-term corporate involvement and support. Some companies are identified by their national science education programs (the Westinghouse Science Talent Search, for example); many others — like Southwestern Bell, Eastman Kodak Company, Monsanto Fund, Exxon Education Foundation, Upjohn Company, Cray Research, Texaco-WNET/Thirteen, and Hoffmann-La Roche, to name a few — have introduced major efforts to improve science and mathematics education in their own communities. Many additional programs are under way across the country. The examples included here are meant to illustrate the types of involvement possible for companies and other funders, not to constitute an all-inclusive collection.

Brief descriptions are also provided in this section for three national reform efforts in science and mathematics: Project 2061 of the American Association for the Advancement of Science (AAAS); Scope and Sequence of the National Science Teachers Association (NSTA); and the mathematics education reform spearheaded by the National Council of Mathematics Teachers (NCTM), Mathematical Association of

America (MAA), and the Mathematical Sciences Education Board (MSEB). Corporate and private support will be critical as schools and districts nationwide seek to implement these major reform strategies.

Reading, Writing, and Student Literacy

The critical importance of good reading skills as the foundation for all other learning is evident in the truism, "Students learn to read from first through third grade, and read to learn from third grade onward." Students with poor reading skills are incapable of conducting the kind of research and study necessary to succeed academically and will be at a disadvantage throughout their educational careers.

It is, therefore, the responsibility of teachers and schools to ensure that every student reads, writes, and thinks at a sophisticated level. In other words, students must be able to read critically and analytically, write effectively about complex issues, and think creatively about how to solve problems.

In addition to traditional classroom work, many children benefit from business- and community-sponsored programs to encourage more and better reading. Reading Is Fundamental and Junior Great Books are two national programs that receive broad private support for local implementation. Time Warner's Time to Read, and the *Washington Post*'s Success in Reading and Writing illustrate the kinds of literacy-based activities sponsored by newspapers and publishing companies in school districts across the country. Mattel Foundation supports the development of Writing to Read computer labs to teach reading and writing skills to children with disabilities.

In many cases, programs are designed to change not only the way reading and writing are taught in the classrooms, but also how well teachers, students, and parents understand the importance of mastering high-level literacy skills. Denver's Public Education Coalition created the Literacy League program to help elementary school teachers redesign their classes to make sure that all students learn good reading and writing skills. The National Writing Project, a school/university program, helps teachers learn new ways to teach reading and writing through workshops and teacher-to-teacher interaction. And in Philadelphia, the districtwide Writing Across the Curriculum Project emphasizes the centrality of teachers to the improvement of education and works to meet its goals through school-based writing teams, teacher-to-teacher networks, and citywide workshops and symposia.

For the most part, these experiments provide teachers with the techniques to use writing as a way to teach children better reading skills in addition to learning how to write more effectively. Whether computer technology is part of the process or not, this approach to reading and writing has led to some significant increases in student self-confidence as well as better communication skills.

Teacher Recruitment, Education, and Professional Development

If teachers are the key to ensuring a quality education for each student, then companies and other funders must begin to look beyond retraining the present teaching force through staff development and in-service workshops. Worthy as these programs may be, concentrating on teachers once they are in the classroom is only a partial solution. A number of other things have to be changed if we are to improve the quality of teaching; we must recruit highly qualified individuals into the teaching profession and restructure schools of education and teacher education programs, in addition to supporting high quality professional development training for current teachers.

To recruit better qualified teachers, and to achieve greater representation of minority populations, teacher preparatory programs have been established in high schools, special college scholarships have been set up for future teachers, and some additional support for graduate-level work in education has been made available. In 1991, for example, Rockefeller Brothers Fund created a fellowship program for outstanding minority undergraduates in the arts and sciences who wish to pursue a graduate degree in education and teach in the public schools. The program provides financial support and professional development opportunities to twenty-five students selected annually from approximately twenty participating colleges.

In this chapter are descriptions of the national Recruiting New Teachers campaign, the efforts of the Southern Education Foundation's Consortium on Teacher Supply and Quality, and US WEST's support of University of Northern Iowa's Minorities in Teaching Program. DePaul University's Urban Teachers Corps and Teach For America illustrate programs that provide options for alternative career routes into teaching.

Recruiting better qualified teachers into mediocre and traditional teacher education programs will not generate the excellent teaching force needed for restructured schools. As John Goodlad points out in *Teachers for Our Nation's Schools*, future teachers must be educated through a coherent, sequenced general education program and their pedagogical training must be linked closely with teaching practice in the schools.

Teacher education reform requires university-level restructuring, a formidable challenge being met through the Agenda for Teaching in a Democracy (an eight-site pilot project to implement Goodlad's recommendations). Other examples of major reform efforts in teacher education are the AT&T Teachers for Tomorrow program and the Philip Morris Companies' grant to the University of Tennessee. The Exxon Education Foundation is supporting a long-term project of the American Federation of Teachers to provide clinical experience for teachers in professional practice schools.

A number of corporate and private foundations are funding the work of the National Board of Professional Teaching Standards as it attempts to establish a national voluntary certification process to ensure the quality of teaching. Both the reform of teacher education and the establishment of national teaching standards will be influenced by ongoing research on what constitutes effective teaching conducted by the Institute for Research on Learning in Palo Alto, California.

Many examples of staff development programs appear in other sections of this report, as schools and districts often use financial and other kinds of support from companies and foundations to retrain teachers in both subject areas and pedagogical strategies. Several national programs complement these local and/or subject-specific in-service programs. For example, the National Faculty of Humanities, Arts and Science was created over twenty years ago to provide university-directed in-service programs especially created to meet the specific needs and challenges of the local school. And IMPACT II, a network of teachers interested in developing innovative classroom practices, is active in schools and districts across the country.

Observations

Corporate and private funders concerned with changing curricular and pedagogical strategies are most often involved in helping schools and teachers by developing workshops and seminars on subject areas and pedagogical strategies, by creating teacher-to-teacher networks, and by contributing additional resources to provide much-needed support for classroom teachers. As outsiders to the educational system, they can also play an important role in helping to link teaching practices developed through in-service training with the pre-service education of future teachers.

Reviewing the examples in this chapter, three general observations can be made about the nature of effective programs:

1. *There is evidence of a "hands-on" or practical orientation* as initiatives seek to provide students and teachers with real-world applications for textbook and classroom learning: how to do science; how mathematics is used on the job and in everyday life; how to translate actual courses into teacher-training experiences in professional practice schools.

2. *Activities are linked to outcomes.* Many of the programs designed to change curricular and pedagogical practices are directly linked to reform or restructuring outcomes desired by schools or districts. The goal of most projects in science/mathematics/technology and reading/writing is *to increase student learning*; the national goal, after all, is to be "first in the world in mathematics and science." And, as illustrated by the following descriptions, the vehicle by which this goal will be met is by *extending the capacity of teachers* in both subject area expertise and pedagogical skills. Schools and districts are experimenting increasingly with *flexible management and organizational systems* to support teachers who encourage "active learning." Finally, some reform efforts are directed toward developing *evaluation and assessment strategies* designed to measure how well students master scientific and mathematical inquiry and advanced writing skills as well as how thoroughly they acquire information and basic skills.

3. *There is commitment to long-term involvement.* Whatever the reform goal being sought — high quality applicants entering the teaching field, managerial and pedagogical changes embedded within the system, linking best school practices to teacher education programs — those working to meet the goal are convinced that short-term, isolated programs will not have the impact desired. For example, if the goal is to ensure that all students gain scientific and mathematical expertise and advanced literacy skills, then programs must start in the early grades and be sustained through several years. Companies can work with schools to make sure students get a solid foundation of basic mathematics, science, reading, and writing skills in their elementary and middle school years. And they can lend their resources to helping students build advanced academic and technical skills on top of that early educational foundation.

Future Directions

It is clear from the descriptions below that most existing curricular and pedagogical programs do not address the critical need to change the education system itself so it can support, maintain, and encourage the important instructional changes taking place within the classrooms. Summer institutes and workshops will not have much of an impact on schooling if teachers return to the same overly-bureaucratic, stifling regulations in the fall.

For example, many teachers who learn exciting ways to teach science through "hands-on" classroom experiments quickly run into the frustration of trying to teach their subject in short forty-minute classes. For science classes to become more than memorizing formulas and performing end-of-chapter problems, students must be challenged to "do science" and probe nature for answers. But how can students prepare for a scientific experiment, perform the experiment, discuss the implications of what they've experienced, and put things away in time for the next class period? How can their understanding of the material be measured adequately if the teacher does not have time to talk with them about the experimental process and what they have learned from it? Hands-on science teaching is impossible if there is inadequate time to develop ideas and perform experiments to test those ideas, if materials and equipment are not maintained and cared for, if there is no space allotted to science materials in the school and no one responsible for taking care of those materials. By looking at just a few of the implications of changes in one subject area, then, the complexity of needed system changes — in scheduling, testing and assessment, decision-making, allotment of resources, and teacher training — becomes clear. It is no longer enough to institute even an excellent mathematics or science program without also helping schools and districts address the systemic reforms needed to ensure long-term success.

When looking at school reform from the vantage point of a student's entire academic experience, rather than a single subject area, the need for school-based system change becomes even more apparent. Since student success in the technical subjects of mathematics, science, and computer technology is inextricably tied with good reading and writing skills, business and other private funders should help schools, districts, and teachers establish specific and coordinated academic goals, develop effective strategies to reach those goals, and explore new ways to measure whether students and teachers have achieved the goals.

Finally, changes being encouraged through individual subject-specific programs must have an impact that extends beyond the school or school system. Many of the professional development and in-service workshops now under way are directed at the most basic levels of teacher training; in some cases, they serve as a sort of remedial course in science and mathematics or in teaching writing, making up for the inadequate general education available for future teachers at the university. Such basic instruction must become routine in teacher education programs across the country. The restructuring experiments now being undertaken in a few colleges and universities must lead the way to a completely new, academically rigorous teacher preparation program that is closely coupled with classroom practice and training. Business-sponsored in-service workshops could then follow more closely the corporate or scientific model, where advanced training and new information are presented at seminars to professionals seeking to learn the latest ideas and their most compelling new applications.

Science, Mathematics, and Technology Education

The Kodak 21st Century Learning Challenge

For further information, write:

Mutui O. Fagbayi
Manager, Kodak 21st
Century Learning
Challenge
Eastman Kodak Company
343 State Street
Rochester, NY 14650-0545

The Eastman Kodak Company initiated the Kodak 21st Century Learning Challenge in 1990 as a ten-year partnership between Kodak and schools in communities with major Kodak manufacturing facilities. The program, which is being implemented initially in Rochester, New York, focuses on students, educators, and the educational institution as a whole in order to increase student achievement in science, mathematics, and technology.

The Learning Challenge was developed by the Kodak Education Task Force, a group of educators and Kodak employees, which identified the program's targets and goals: (1) For pre-kindergarten students, to make sure all children are ready for school; (2) for K–12 students, to assure high student achievement in science, mathematics, and technology, and to prepare students for higher education or future careers; (3) for educators, to extend the capacity of teachers, administrators, and other school personnel for instruction and leadership; and (4) for educational institutions, to create an environment that promotes student achievement and lifelong learning within a broadly defined learning community.

To keep the Learning Challenge focused on academic goals, Kodak has developed a management structure that enables representatives from schools, district offices, the community, and Kodak to plan and implement the program and monitor progress. Each plant site has a manager responsible for the program's operation, goal managers who direct activities toward specific objectives, and a local council which provides operational support and evaluates progress. For example, the Rochester Program Council is comprised of nine representatives each from Kodak, the school district, and community partners (including representatives from local colleges and universities, the National Center on Education and the Economy, and the Center for Educational Development, a clearinghouse for community/education partnerships).

The K–12 component of the Kodak Learning Challenge was launched at a three-day conference for over 200 teachers and school, university, and business leaders. Conference participants, half of whom were classroom teachers, met in workshops to begin to develop appropriate strategies to help all students attain world-class achievement in mathematics and science. Among the proposed changes are activities to increase students' content knowledge and technical skills and continuing education opportunities in teaching strategies and science applications for teachers.

The Kodak Learning Challenge in Rochester is currently comprised of six elements:

1. **In-class Participation.** To date, the Learning Challenge has formed partnerships with fifteen schools. These partnerships are implemented at the individual school

level and involve more than 750 Kodak employees working with over 3,000 students. The volunteer participation is anticipated to increase by 200 people during the 1991–92 school year as the program expands to other schools. A formal Partnership Development Process, patterned on the twelve-step model of the National Association of Partners in Education, is being designed to facilitate the creation of partnerships and develop effective assessment and evaluation procedures.

2. **Mentor Program.** Over 120 fifth and sixth grade students and Kodak volunteers have been paired to work together on technical projects at the mentor's work site. Both mentors and students make a six-year commitment to the program, so the relationship can continue through senior high school.
3. **Summer Science Institute for Teachers.** Twenty-five teachers, most teaching in elementary grades, spent three weeks during the summer receiving classroom instruction on science process skills and interning at Kodak with a Kodak employee-mentor. The Institute, designed jointly by Kodak, the school district, and the State University of New York at Geneseo, includes a year-long component with monthly in-service training for participants. The twenty-five teachers will return to the Institute in the summer of 1992 for advanced studies, and an additional fifty teachers will begin the program. The goal of the Summer Science Institute is to create a cadre of 200–300 mathematics and science teacher-specialists, especially at the elementary school level.
4. **Early Childhood Education.** Ten Kodak volunteers have begun to serve in the three existing school district early childhood centers as Kodak continues to explore ways to place more centers in existing elementary schools.
5. **Quality Education Process.** Consultants trained in Quality Management concepts work with school leaders to help them design and implement their school improvement plans. The consultant works with the principal as a coach or mentor, with School-Based Planning Teams as facilitators, and serves as liaison between the school and Kodak resources.
6. **Volunteer Training.** Volunteers are required to attend a one-day orientation, "Child and Cultural Sensitivity Awareness," to learn about child development, school culture and environment, and cultural diversity. Over 300 Kodak employees have already participated in the training program, and new training sessions on teaching techniques and classroom management are being designed.

With the help of Kodak staff and employee volunteers, teachers and students in Rochester are beginning to undertake an ambitious new program to improve science and mathematics education from kindergarten through twelfth grade. What was begun in Rochester will soon be developed in Kodak's other plant cities of Kingsport, Tennessee, Windsor, Colorado, and Longview, Texas.

Upjohn's Commitment to the Kalamazoo Area Math and Science Center

For further information, write:

Vickie G. Heerlyn
Manager, Corporate Support Programs
Upjohn Company
7000 Portage Road
Kalamazoo, MI 49001

The Upjohn Company commemorated its 100th anniversary in 1986 by helping to establish the Kalamazoo Area Mathematics and Science Center (KAMSC), serving students in eighteen high schools, three of them private, in Kalamazoo, Michigan, and the surrounding communities. Upjohn's donation of $2.4 million funded initial start-up costs and provided continued endowment for the Center. The gift encompassed all the costs associated with physical plant renovation, curriculum development, and capital outlay necessary to equip the school. It also included salaries for a school director and secretary, as well as consultant services.

Several concerns led Upjohn to its decision to create KAMSC. As a dominant corporate presence in the community, Upjohn wanted to leverage both high-tech expertise and financial resources for the benefit of the community through a single unified and effective program that serves all schools equally, rather than by making separate contributions to individual schools. The company was also well aware of the financial and other barriers facing the local schools and districts as they sought to upgrade mathematics and science curricula. So Upjohn decided to focus its program on improving the quality of science and mathematics education in all community schools. This focus on math and science would lead naturally to a variety of responses from the company, including gifts of equipment, the involvement of expert mathematicians and scientists, teacher training programs, and curriculum development for gifted and talented students.

The mission of the Kalamazoo Area Mathematics and Science Center is to enrich mathematics and science instruction for students in the Kalamazoo area and to serve as a model for excellence and innovation in the teaching and learning of mathematics and science. KAMSC identified four goals to carry out its mission:

1. To deliver rigorous educational opportunities in mathematics and science to academically talented and motivated students.
2. To provide opportunities for the enrichment of existing school programs through sharing experiences and innovative procedures and materials.
3. To plan and deliver professional development programs for mathematics and science educators in concert with area professionals.
4. To serve as a catalyst and a medium for community involvement in mathematics and science education.

Since the Kalamazoo Area Mathematics and Science Center is a special school, students take their regular academic courses at their "home school" and attend KAMSC for mathematics and science instruction. Programs and courses cover mathematics; physical, biological, and earth sciences; computer science; and related fields such as science writing. Using curriculum guidelines established by the National Assessment of Educational Progress, KAMSC ensures that students master basic concepts and skills in both science and mathematics and requires students to enroll in at least one math and one science course a year. In the eleventh and twelfth grades students can also take electives and special courses designed to encourage independent research and study.

KAMSC has had an important impact on the community. Since 1986, 441 students have received instruction in KAMSC classes, and 134 have graduated. All of KAMSC's first two senior classes, 1990 and 1991, are enrolled in colleges, and each class was offered over $2 million in grants and scholarships. In addition, the center serves as the model for a new math and science school in Battle Creek, Michigan, to be opened in fall 1992.

The Westinghouse Science Talent Search at Fifty

For further information, write:

Cheryl L. Kubelick
Manager, Contributions & Community Affairs
Westinghouse Electric Corporation
Westinghouse Building, Room 1042
Pittsburgh, PA 15222

Westinghouse Electric Corporation has had a well-publicized and longstanding commitment to encourage and reward those students with great interest and aptitude in science and mathematics. In 1942 the Science Talent Search was created as a way to identify the most promising high school senior science students and provide an opportunity for them to pursue careers in science through scholarships and small grants. In the years since then, five Westinghouse winners have become Nobel laureates: chemists Roald Hoffmann and Walter Gilbert, and physicists Sheldon L. Glashow, Leon N. Cooper, and Ben R. Mottelson.

The procedures followed by the Science Talent Search, administered by Science Service, have been consistent throughout its fifty-year history. From a large pool of applications (over 1,500 in 1990), judges select 300 semifinalists and then narrow the field to the top forty finalists. These forty students spend five days competing (and sightseeing) in Washington, D.C.; the ten scholarship winners are announced at an awards banquet. A panel of eight judges, including a Nobelist, interviews each student to determine creativity and probable success in pursuing science as a career. The scholarship winners are ranked one through ten, and the top prize is a $40,000 scholarship. Since 1942 Westinghouse has provided more than $2.8 million in scholarships and cash awards to the 2,000 talent search winners.

The Westinghouse Science Talent Search is not without critics who accuse the program of elitism, but its remarkable success at providing much-needed support and encouragement to gifted students has the potential to lead to important changes in the way science is valued and taught in high schools around the country.

At schools that focus on high academic achievement, the faculty creates a culture in which exploring ideas through the tools of mathematics and science is acceptable and rewarded. Students are encouraged to take double-period courses, and teachers work together to develop research programs that extend student experiences and understanding far beyond traditional coursework. Those students interested in competing for a Westinghouse usually spend after-school and weekend sessions working with professional scientists in university, corporate, and medical laboratories. Although family backgrounds differ among Westinghouse winners, almost all of them have enjoyed intellectual challenge and support from one or both parents.

MESA: Promoting Mathematics, Engineering, Science Achievement for Twenty-One Years

For further information, write:

Wilfred O. Easter
Statewide Director, MESA
Lawrence Hall of Science
University of California
Berkeley, CA 94720

The Mathematics, Engineering, Science Achievement project, MESA, celebrated its twentieth anniversary in 1990. Created to identify, nurture, and help prepare Native American, African American, Latino, and Puerto Rican students for the rigor of college study in science and engineering, MESA has served more than 35,000 Californian youths from fourth grade through high school.

The idea for the MESA Program developed in 1968 at the University of California at Berkeley out of the recognition that there were very few African American and Mexican American engineering graduates from the university. Looking more closely, engineers and scientists at UC Berkeley, the Lawrence Hall of Science, and the State Department of Education discovered that many students interested in math in high school had, nevertheless, not completed the courses necessary for admission to college in a math-based major. In 1970 MESA began providing academic counseling and support services for its first group of twenty-five students at

Oakland Technical High School, and by 1977 the success of MESA in the Bay Area resulted in program expansion to other California regions. There are now twenty MESA centers based at University of California and California State University campuses and a few private institutions. These centers administer MESA programs to 8,900 students in 220 junior and senior high schools and thirty elementary schools spread over seventy school districts. Additionally, twenty colleges and universities sponsor the allied MESA Engineering Program (MEP), a support system for 3,942 undergraduates established by statewide MESA in 1983.

To enroll in MESA, students must enroll in academically challenging courses at their schools (three to four years of math, science through chemistry and physics, and four years of college prep English). MESA students are encouraged to conduct research, develop projects, and present their work to peers and parents in competitions. In return for their commitment to learning, the students receive tutoring, take field trips, participate in intensive summer and after-school study programs, have routine contact with working scientists and engineers, receive counseling about college plans, and are given assistance in preparing for college admissions tests. A family involvement program brings parents and guardians into the MESA support network, providing them with opportunities to help with such activities as study groups, field trips, and social events.

The success of MESA is substantial. Over 7,600 high school graduates (since 1981) and 2,200 engineering graduates (since 1983), can point to MESA as a major contribution to their academic achievements. MESA's evaluation data show:

- Eighty percent of MESA's high school students go on to college the fall after graduation (as compared to 57 percent of all California high school graduates).
- MESA students' cumulative SAT scores are, on average, 100 to 160 points higher than those of their non-MESA peers.
- About 75 percent of MESA's graduates have a 3.0 or better GPA and go on to college; two-thirds of them declare a math-based major as freshman.
- About 62.2 percent of MEP-member college students continue in their engineering program; by contrast, the attrition rate among non-MEP black and Hispanic engineering students in the state is more than 80 percent.

Equally important, MESA-like programs have been instituted in thirteen other states, including Arizona, Colorado, Kansas, New Mexico, North Carolina, Oregon, South Dakota, Utah, and Washington.

MESA enjoys the support of over forty corporations and private foundations who provide cash grants, executives on loan, meeting facilities, and other resources to the program. These organizations include IBM Corporation, ARCO Foundation, Chevron U.S.A., General Motors Corporation, Pacific Telesis Group, TRW Inc., Aerospace Corporation, Hughes Aircraft Company, Bechtel Group, Inc., US WEST Foundation, Alcoa Foundation, Hewlett-Packard Company, Pacific Gas and Electric Company, Carnegie Corporation of New York, Parsons Foundation, Westinghouse Electric Corporation, and Ahmanson Foundation. The state of California matches private contributions on a two-for-one basis.

M^3AS: The McAllen/Mission Mathematics and Science Project

For further information, write:

Charles O. DeRiemer
Executive Director
Southwestern Bell
Foundation
One Bell Center
St. Louis, MO 63101

Through a partnership of the National Action Council for Minorities in Engineering (NACME), Southwestern Bell Foundation, the McAllen Independent School District, and the Mission Consolidated Independent School District, elementary students in the Rio Grande Valley of Texas will experience new ways to learn science and mathematics through problem-solving and hands-on activities.

The McAllen/Mission Mathematics and Science Project (M^3AS) — an integrated, comprehensive math/science program — will focus on ways to excite fourth through sixth graders about science and mathematics, expanding the pool of students with a solid academic preparation in the subjects as well as an interest in exploring opportunities in the technical work force. (The program's acronym is pronounced *mas*, the Spanish word for more.)

M^3AS has three major components: professional development, curriculum development, and partnerships. Through pre-service and in-service workshops, a leadership cadre of teachers from both districts will enrich their skills in science and mathematics and enhance their capacity to implement inquiry-based curriculum. This new curriculum, to be designed by classroom teachers, will be based on the Texas Essential Elements for Science and Mathematics and will seek to integrate science into the total curriculum. The project was officially launched in January 1991 with the first professional development workshop in a series designed to enhance teachers' knowledge of math and science concepts as well as to strengthen their curriculum building and leadership skills.

NACME and Southwestern Bell recognize the importance of partnerships in creating educational change, and the M^3AS project seeks to link the schools with a number of other resources, including the University of Texas-Pan American, local industry, community organizations, and parent groups. Ed Whitacre, chairman and CEO of Southwestern Bell Corporation, emphasized the coalition-based aspects of the project: "Southwestern Bell Foundation expects this project will demonstrate how a community — through teamwork, clear objectives, and simple measures of accomplishment — can improve the education its children receive."

The success of M^3AS will be evaluated by several measures of achievement in science and mathematics: improved classroom performance, increased enrollment in accelerated classes, raised scores on standardized tests, expanded participation in science and math activities, and changed attitudes of students, parents, and teachers toward science and mathematics.

Southwestern Bell Foundation has committed $270,000 in seed funds to enable NACME to develop the project over a three-year period. The Foundation's intention is that M^3AS will eventually become institutionalized and self-sustaining.

Exxon Education Foundation's K-3 Mathematics Specialist Program

For further information, write:

Michael F. Dooley
Program Officer
Exxon Education
Foundation
225 E. John W. Carpenter
Freeway
Irving, TX 75062

In 1987 Exxon Education Foundation launched its Mathematics Education Program to improve mathematics education in the United States through programs targeting early elementary school mathematics, mathematics education at the college level, and policy analysis of issues affecting mathematics education from early childhood through postgraduate training. To date, the Foundation has made grants in excess of $6.7 million in support of mathematics; of that amount, $2.6 million has supported the K–3 initiatives in some sixty school districts in twenty-seven states.

Coordinated by the National Council of Teachers of Mathematics (NCTM), the Mathematics Specialist Program helps schools improve the quality of instruction youngsters receive by using mathematical specialists in the early elementary grades, in initiatives that are consistent with the NCTM Standards and involve parents in mathematics education. In the majority of projects, the mathematics specialist is an elementary school teacher who develops in-service mathematics training for other teachers, plans and runs "Family Math" programs for students and their families, and serves as an advocate for mathematics in the school. These specialists, in turn, receive extra training in how to effectively implement the changes in math education proposed by the NCTM Standards. At workshops and seminars, they learn how to use tables, graphs, spreadsheets, and statistical techniques to organize, interpret, and present numerical information; how to use computer software for mathematical tasks; how to decide when an exact answer is needed and when an estimate will serve the purpose; how to encourage group work in mathematics, and other teaching strategies. They are also exposed to research on how children learn and gain confidence in exploring knowledge. In several sites, workshops have also been developed to improve the mathematical expertise of the specialists and teachers.

Before initial grants were awarded in the Mathematics Specialist Program, districts were asked to make a commitment to an improved mathematics program in early elementary education. Exxon Education Foundation is exploring ways to expand the impact of its K–3 Mathematics Specialist Program. Consideration is being given to linking several of the more successful early elementary projects with local teacher education institutions to address the mathematical preparation of elementary school teachers. And because the Foundation wishes to disseminate information to the mathematics and education communities about the successful work that is being done, the Foundation is funding a book about the project (publication date, April 1992).

The Teachers Academy for Mathematics and Science in Chicago

For further information, write:

Jon R. Thompson
Director
The Teachers Academy for
Mathematics and Science
in Chicago
10 W. 35th Street
Chicago, IL 60616

The Teachers Academy for Mathematics and Science in Chicago (TAMS) was born of Chicago's school reform movement, which has given parents and community members more power over, and a greater stake in, their schools. Developed in 1990 under the leadership of Nobel physicist Leon Lederman, the Academy's mission is to effect significant improvements in the teaching and learning of mathematics and science in all Chicago area classrooms. To accomplish this mission, the Academy will focus on teachers, from kindergarten through twelfth grade, enhancing their capabilities to deliver effective mathematics and science instruction to students with diverse ethnic and cultural backgrounds. It will strive to involve parents and community leaders more fully in this educational process, and it will marshall the vast resources of the universities, museums, laboratories, and private sector to support Academy programs.

The Academy, which in essence serves as the Chicago public schools' professional teacher development program in mathematics and science, seeks to raise teachers' confidence and proficiency in using state-of-the-art materials, techniques, and methodologies in teaching these subjects. Academy Intensive Programs train teachers in innovative and up-to-date curricula, while Academy-trained Replacement Teachers temporarily take their place in classrooms. Teachers attend the Academy two days every week for a sixteen-week period, rotating their time between scheduled Academy classes and "laboratory time" with their own students. Another eight days are spent co-teaching with replacement teachers. This allows a gradual introduction of new ideas and teaching methods and provides an ongoing forum for the participating teachers to discuss implementation problems and successes. The program also provides follow-up, including a semester of TAMS staff working in school with teachers, principals, and Local School Council members, and efforts to expand the local school's access to resources. The Teacher Resource Center, open to all teachers in the Chicago area, provides a resource library, learning laboratories, computer and audiovisual laboratories, and technical specialists to help teachers improve their delivery of improved mathematics and science instruction.

From the beginning of its operation, the Academy has benefited from the involvement and support of many organizations. Initial year grants were $2 million from the U.S. Department of Energy, $1.26 million from the National Science Foundation, and $2 million from the State of Illinois. Amoco Foundation provided a grant of $500,000/five years to assist in the creation of the Academy; the Argonne National Accelerator Laboratory loaned a scientist/executive to serve as the founding acting director. The law firm of Mayer, Brown and Platt donated pro-bono legal services for the Academy's incorporation and initial tax filing, and the Fermi National Accelerator Laboratory donated the part-time services of a secretary who provided critical start-up support. And the Board of Directors is well served by the business community, with Board members from Chicago United, Coopers & Lybrand, Illinois Bell, Inland Steel Industries, Kidder Peabody, Motorola Corporation, and Ogilvy & Mather, as well as the retired CEOs of Amoco Oil Company and Jewel Companies.

The Academy has also developed an activity plan for the regional gas utility industry as a demonstration site for the Education 2000 initiative of the American Gas Association, which would serve as a model for other companies.

Bell Atlantic - AAAS Science Institute

For further information, write:

Ruth Caine
Director
Bell Atlantic Charitable Foundation
1310 N. Courthouse Road, 111-10
Arlington, VA 22201

In 1989 Bell Atlantic initiated a partnership with the American Association for the Advancement of Science (AAAS) to establish a Science Institute for middle school science and technology teachers. The Institute, designed to help teachers develop curricula that integrate technology into science instruction, combines summer instruction with year-round mentoring of individual teachers by volunteer scientists and engineers.

During the two-week summer course conducted at George Washington University, teachers pursue an intensive set of activities involving computer tools, robotics, fiber optics, remote sensing, and weather prediction in order to discover classroom applications of communications and information technologies. Through the Institute's Teacher-Scientist Partnership Program, teacher-scientist teams develop specialized curricula to supplement science courses; each year the top teacher-scientist teams present a symposium at the AAAS Annual Meetings, describing innovations and activities they have developed and implemented during the year.

In addition to the $750,000 funding of the three-year Institute by Bell Atlantic Charitable Foundation, employees of Bell Atlantic companies provide ongoing support to participating teachers. Bell Atlantic technology experts participate in curriculum development for the Institute, and company trainers teach modules on fiber optics and communications technology. Bell Atlantic telephone company subsidiaries host seminars throughout the year.

Cray Academy for Teachers

For further information, write:

Julie C. Stafford
Executive Director
Wisconsin Educational
Partnership Initiatives
and Cray Academy
1345 Ridgewood Drive
Chippewa Falls, WI 54729

The Wisconsin Educational Partnership Initiative, a program funded by Cray Research, Inc., was created in 1987 to improve mathematics, science, and technology curriculum and instruction in elementary, middle, and high schools in northwestern Wisconsin. The partnership has translated that mission into specific support for teacher development through workshops, training programs, tours, and structured discussions between industry representatives and K–12 teachers, directed by the Cray Academy.

The Cray Academy was established in 1988 and has worked with over 3,000 area teachers on a wide variety of mathematics, science, and technology activities. The partnership combines resources from Cooperative Services Agencies, University of Wisconsin - Eau Claire, Chippewa Valley Technical College, more than 130 local school districts, Cray Research, and forty other area businesses to develop academy programs that extend teacher knowledge and expertise and help teachers transfer their experiences into effective, innovative, and exciting classroom strategies.

Driving the partnership's programs at Cray Academy is the belief that it is vitally important to expose teachers to the corporate environment. If students need to learn high-tech skills to be successful students and future workers, then teachers need an intimate knowledge of what is going on in the business world, where theories and practical applications meet. For example, each Academy week begins with structured discussions involving teachers and business/industry representatives reacting to challenging keynote speakers. Each teacher tours three industrial sites during the weekly Academy activities to see how mathematics, science, and technology are integrated with communication skills, teamwork, and problem-solving in the world outside of education.

Academy workshops are created for technology education teachers to demonstrate how to use biomechanics, lasers, hydraulics, photonics, robotics, and aerodynamics in the classroom to teach students problem-solving strategies. Hands-on science and technology education programs actively involve K–12 teachers in the learning process. All mathematics workshops emphasize, model, and implement the curriculum, evaluation, and teaching standards of the National Council of Teachers of Mathematics. Experiential learning, problem-solving, critical thinking, and teamwork activities are emphasized throughout all Academy programs. In conjunction with Lawrence Livermore National Laboratories, the Cray Academy also hosts a two-week workshop for high school math, science, and computer teachers to learn about high performance computers ("supercomputers") and their applications. Each teacher and student becomes part of a national network to communicate throughout the year with other teachers, students, and research scientists to do "big science" or model, simulate, and solve problems otherwise not possible for microcomputers.

When it became clear that most elementary, middle, and high school teachers used the microcomputer predominately for drills, partnership instructors taught teachers to perform tasks, like expanding fractions into their decimal forms, that cannot be done without a computer. Teachers attending Cray Academy workshops also learned to use the microcomputer to simulate the mechanical production process — looking for ways to minimize the cost of each step in the manufacturing process so that a finished product can be sold for maximum profit. Through programs like these, teachers learn that computers, calculators, and other technologies can easily be used as classroom tools to encourage critical thinking by students. Teachers thus acquire the confidence to help students learn to think with the machine, and not to assume the machine will do the thinking for them.

With local school "Dwight Eisenhower" money, teachers attending the two-week summer Cray Academy participate in continuous follow-up activities throughout the school year as part of the collaboration and commitment of Cray, Cooperative Educational Services Agencies, and the University of Wisconsin campuses of Eau Claire, Stout, and River Falls.

In 1989, the Wisconsin Educational Partnership Initiatives developed a new partnership training program called the Cray Leadership Academy to advance quality leadership and team building through participative decision-making in education. The Leadership Academy helps administrators and teachers develop a vision for their schools and build a support-base from which to realize that vision. The program emphasizes communication skills, helps participants develop strategic plans and implementation procedures, and urges a specific program of improvement in, and integration of, mathematics, science, and technology education. More than 200 educators have participated in this program.

Ford Fellows: Sci/Math Project

For further information, write:

Carole Kubota
Director of Programs
Ford Fellows Sci/Math
Project
122 Miller Hall, DQ-12
University of Washington
Seattle, WA 98195

The Ford Fellows Sci/Math project, funded by the Ford Motor Company, is a University of Washington graduate program leading to a Master of Education degree in either secondary science or mathematics education. It links industry, teachers, and the university, with the goal of producing teacher leaders who have solid academic backgrounds, a good understanding of effective teaching strategies, and insight into the competitive environment of U.S. industry.

Ford Fellows are beginning their careers as secondary teachers of mathematics and/or science and are enrolled in the University's graduate degree program. They participate in a six-to-eight week summer internship program, working in a business or industry related to their academic field. This contact with the corporate community is designed to expose teachers to new technologies and give them actual experience working in a laboratory and business so that their classroom instruction becomes more relevant to the needs of business and industry.

Ford Fellows are paired with experienced mentor teachers in their own discipline for the duration of the program (generally, two academic years and three summers). The mentors, recognized by peers for excellence in teaching, know how to reach students effectively — but more importantly, they are adept at transmitting their knowledge and skills to other professionals. In addition, they have maintained their own interest and personal growth in science or mathematics education.

The University of Washington administers the program and conducts leadership and mentoring institutes and seminars that are unique to their program. With the guidance of the Project's Steering Committee and the help of the Puget Sound Educational Consortium, the staff selects and pairs fellows and mentors and places the fellows in appropriate businesses and industries.

Project evaluation will focus on both the process of partnership formation and the development of the science and mathematics teachers. Among the areas it hopes to explore are: whether the project produces teacher leaders in science and mathematics; the role of the mentor teacher in the professional development of beginning teachers; the effect of the summer business experience on the teachers and their students; and the project's overall effectiveness and replicability. By comparing the Ford Fellows to other beginning science and mathematics teachers, the evaluation will examine whether — and how — Ford Fellows and their students are different from other teachers and their students.

The Sci/Math Project was developed with funds from a five-year, $100,000/year grant to the University of Washington from the Ford Motor Company, which pays administrative costs as well as the tuition and fees of the Ford Fellows. Fellows have held summer internships at the Ford Motor Company, Fred Hutchinson Cancer Research Center, Puget Sound Power and Light Company, Rocket Research, US WEST, The Boeing Company, the Environmental Protection Agency, IMMUNEX, SAFECO, Washington Natural Gas, Physiocontrol, and Bristol-Meyers Squibb.

Leading Edge Curriculum Supplements from Hoffmann-La Roche

For further information, write:

Vivian Beetle
Manager, Department of
Community Affairs
Hoffmann-La Roche Inc.
340 Kingsland Street
Nutley, NJ 07110-1199

An important part of Hoffmann-La Roche's Math and Science Education Support Program is the development of curriculum materials that complement science textbooks in middle and high schools. The topics covered in Roche supplements include: "A Progress Report on Biotechnology," "Genetics: Investigating the Mosaic of Life," and "New Choices, New Responsibilities — A Program on Bioethics," which covers ethical issues in the life sciences, such as genetic research, using animals in research, AIDS, and the environment. For each curricular unit, Roche provides science educators with the lesson plans, teaching guides, and classroom materials. While Hoffmann-La Roche funds and oversees the development of the materials, educational consultants and other experts write the units and prepare classroom guides.

Science teachers, who learn of the materials through state and regional science education meetings, are eager to include units on scientific breakthroughs to supplement their textbooks. And, in Hoffmann-La Roche's home state of New Jersey, the State Association of Science Supervisors has developed a series of workshops based on bioethics curricular supplements, which were authorized by the Hastings Center, to train teachers to teach the units as well as to train other teachers. Roche sponsored the first workshop in the summer of 1991 with subsequent sessions planned.

Science Education for Equity Reform

For further information, write:

John S. Rigden
Director of Physics Programs
American Institute of Physics
335 E. 45th Street
New York, NY 10017

For many years, the scientific community has been concerned by female and minority students' apparent lack of interest in and lack of qualifications for careers in science. When it became clear that many students have already "turned off" to science by middle school, concerned scientists began to focus on how children are taught science in the early grades. They discovered two things, neither very surprising: first, most elementary school teachers did not receive an adequate science education themselves and, as a result, were uncomfortable about teaching it; and second, teachers — often unknowingly — respond differently to science questions and answers given by white boys and those given by girls or minority boys. With funding from the National Science Foundation, a partnership was created between scientists of the American Institute of Physics and an elementary school district in University City, Missouri, to address these two issues.

The first goal of the partnership was to help teachers learn and enjoy science so that they would gain confidence in teaching it in such a way that students would also learn and enjoy science. To meet this goal, the partnership held three-week summer Content Institutes for all kindergarten through fifth grade teachers (over 85 percent of all teachers have participated), conducted monthly science meetings for the teachers during the school year, and created teams of teachers to develop a hands-on science curriculum for these grades. Two half-time former teachers and two part-time physicists coordinate all of the activities and workshops. Local companies — including Monsanto Company, Ralston Purina, Southwestern Bell Telephone, and McDonnell Douglas — placed representatives on a science advisory council to help the schools build their scientific program.

The second goal of the partnership was to identify racist and sexist practices in the elementary school classrooms and to help teachers learn ways to change these patterns. In the first year of the project, an equity audit was conducted: teachers were observed in each classroom, students and teachers were interviewed, and grades and other school records were reviewed. The results surprised and distressed many teachers who discovered that they were inadvertently discouraging female and minority students from learning mathematics and science. During one-week summer Equity Institutes, teachers acquire a new sensitivity to the way they respond to their students and learn different strategies that would open the study of science to all students. Throughout the year teachers use peer coaching methods to continue to develop inclusive practices.

After three years, the project, Science Education and Equity Reform (SEER), has exerted an influence that extends beyond the growing confidence of elementary school teachers who know more science and enjoy teaching it to their students. A systemic change has been brought about in the school district: from textbook-based science taught on an ad hoc basis, science is now taught an average of 150 minutes per week using a hands-on approach. The science-centered elementary school classrooms are now supported by labs in each elementary school, rooms are set aside to store science materials, and a part-time science aide monitors and maintains the equipment in each school. The district has developed links with three area universities to begin to change the way new elementary school teachers are prepared to teach science. In addition, plans are already under way to implement project SEER in other school districts in the St. Louis area, as well as in Pueblo, Colorado.

Pfizer's Education Initiative in Science and Technology

For further information, write:

Marjorie Wilkes
Manager, Headquarters
Education Initiative
Pfizer, Inc.
235 E. 42nd Street
New York, NY 10017

In 1990 Pfizer launched a company-wide Education Initiative to promote education partnerships between company facilities and public schools that would help ensure the existence of a pool of quality scientists for the future and increase the general and technical literacy of high school graduates entering the work force.

As the partnership program gets under way, Pfizer sites receive start-up funds from the Pfizer Education Initiative Support Fund and employees are encouraged to join the Pfizer Volunteer Program. The types of programs being developed across the country vary widely. Some locations realize that before mathematics and science learning can be improved, family and community problems must be dealt with and students must have learned strong reading skills. Almost all sites recognize that they must help tackle the problems of underfunded schools inadequately prepared to reduce the mismatch between the kinds of jobs available and the skills level of students leaving high school.

Two descriptions will give the flavor of the many different partnerships Pfizer has established within its communities:

- *SMART (Science and Math Are Really Terrific)*, a program aimed at both students and teachers in Groton, Connecticut, was developed by Central Research and the Specialty Chemicals Group. Teachers from eleven school districts are invited to participate in workshops given by Pfizer scientists and educators on "doing science" in such topics as biotechnology, hydroponics, and statistics. Pfizer employee volunteers participate in an annual "Get Scienced" Jamboree for eighth grade students, designed to communicate the excitement of mathematical and scientific problem-solving through demonstrations and displays.
- *Bethlehem/Easton Education Initiative* encourages better science teaching in the elementary grades by working with teachers to develop effective, hands-on science curriculum for the schools. The Pfizer Minerals Research Center in Bethlehem, Pennsylvania, formed a partnership with the Easton School District to help teachers alter negative attitudes toward science and mathematics. Among other things, the partnership is creating science teaching units and is reviewing and rewriting the science curriculum. It also provided two-year subscriptions for all elementary teachers to *Wonder Science* magazine (jointly published by the American Chemical Society and the American Institute of Physics) and established two-year institutional memberships to the National Science Teachers Association.

At other sites the Pfizer Education Initiative includes teacher internships, one-to-one mentoring programs for at-risk students, dropout prevention programs, and computer literacy programs. Other members of the Pfizer community are quickly joining the initiative, seeking to achieve the goals of the corporate mandate to "raise the consciousness of teachers and students that careers in math and science are exciting and rewarding."

National Science Resources Center

For further information, write:

Douglas M. Lapp
Executive Director
National Science Resources Center
Arts & Industry Building, Room 1201
Smithsonian Institution
Washington, DC 20560

The National Science Resources Center, a cooperative venture of the Smithsonian Institution and the National Academy of Sciences, was established in 1985 to improve the teaching of science in the nation's schools. Located in the Smithsonian Institution's Arts & Industry Building, the NSRC maintains and disseminates a collection and databases of teaching resources, develops and disseminates curriculum materials, and sponsors outreach activities to help school districts improve their science programs.

To disseminate information about effective teaching resources, the NSRC maintains a comprehensive resource collection and computer information databases of exemplary science curriculum materials and supplemental materials. Using this database, the NSRC prepared and published an annotated elementary science resources guide, *Science for Children: Resources for Teachers*, which identifies materials and programs designed to engage children in hands-on science activities.

The NSRC is also engaged in a major national elementary curriculum project to develop hands-on science units for grades one through six. The twenty-four units of the Science and Technology for Children (STC) project provide students with experiences in life science, physical science, earth science, and technology while developing their critical thinking skills. Built around four central themes, the STC units offer children the opportunity to learn age-appropriate concepts and skills: Primary-grade children begin their study of science by observing and measuring, then move on through a progression of experiences that culminate in grade six with the design of controlled experiments.

In the outreach program area, the NSRC currently conducts annual Elementary Science Leadership Institutes to prepare teams of administrators, curriculum specialists, teachers, and scientists to design and implement hands-on science programs for their school districts. Participants engage in workshops and discussions on effective curriculum materials and materials support systems, and on appropriate assessment methods and strategies for building administrative and community support for a hands-on elementary science program. With major support from the National Science Foundation, the NSRC will expand the scope of these leadership development efforts, involving scientists, engineers, and their organizations in a concerted effort to improve K–12 education.

Other sponsors of the NSRC programs include Amoco Foundation, Digital Equipment Corporation, Dow Chemical Company Foundation, E.I. du Pont de Nemours & Co., Hewlett-Packard Company, John D. and Catherine T. MacArthur Foundation, the U.S. departments of Defense and Education, and the W.K. Kellogg Foundation Endowment Fund of the National Academy of Sciences and the Institute of Medicine.

Teacher Training Institute for Science, Television, and Technology

For further information, write:

Maria Mike-Mayer
Manager, Corporate
Contributions
Texaco Inc.
2000 Westchester Avenue
White Plains, NY 10650

In 1990 Texaco Inc. and WNET/Thirteen launched a unique partnership designed to increase the use and effectiveness of instructional television in New York, New Jersey, and Connecticut classrooms. Through the Teacher Training Institute for Science, Television and Technology, Texaco and WNET propose to improve the skills and enhance the professionalism of science teachers and thus improve science teaching.

While most teachers wish to use television and technology in their teaching, only half of the nation's teachers report that they have experimented with it in their classes. Some teachers may need basic instruction and support in using the equipment effectively, but many others are unaware of innovative materials for training and classroom use. Through the Institute, over 500 teachers were introduced to materials that can enhance existing curricula and learned strategies for using instructional television and technology to expand science classes.

Active and ongoing involvement by teacher participants is a key to the Institute's success. The four-day summer Institute provides teachers with hands-on instruction on integrating public television science and environmental programs into classroom teaching. Master teachers, who have been trained as resource people, illustrate how to use video to stimulate student discussions, generate student projects, and supplement classroom and laboratory experiences. Institute participants receive a classroom kit with effective teaching strategies and more than seventy-five video lesson plans organized by grade level and curriculum area.

During the fall, five days of additional training will provide participating teachers with an opportunity to get more help in employing video and technology in the classroom. Texaco and WNET/Thirteen have designed an extensive evaluation of the Institute to measure attitudes and use of instructional television and technology and the performance of students and teachers involved in the project.

During the 1991–92 school year, the Teacher Training Institute will be expanded to ten additional sites around the country with support from Texaco (a grant of $765,000 for the local and national projects) and $250,000 from the Corporation for Public Broadcasting. New sites include Miami, Dallas, San Francisco, Cleveland, Seattle, Kansas City, South Carolina, Louisiana, Los Angeles, and Wisconsin.

Biotechnology Education Project

For further information, write:

Paul S. Markovits
Executive Director
St. Louis Mathematics and
Science Education Center
8001 Natural Bridge Road
St. Louis, MO 63121

The Biotechnology Education Project, initiated in 1987 with a $40,000 pilot grant from Monsanto Fund, was designed to introduce teachers (grades 6–12) to the fundamental concepts of biotechnology. With technical assistance from Monsanto Company life-science researchers and Washington University faculty, classroom teachers developed biotechnology units for students at several grade levels:

- Sixth grade students are introduced to biotechnology through activity-centered lessons, analytical experiments, and games. Students create flower, cell, and DNA models; explore genetic traits and variation within species; and discuss the relevance of biotechnology to their lives.
- Seventh and eighth grade students work through seventeen activity-centered lessons examining a series of questions addressing biotechnology issues: What is technology? What are proteins? How does DNA control protein synthesis? What is cloning? What are the social implications of biotechnology?
- High school students use videos, analogies, and laboratory experimentation to understand how to use basic diagnostic techniques and genetic engineering procedures. They role-play and create paper models in preparation for experiments in DNA extraction, restriction enzyme analysis, electrophoresis, and plant and

bacterial transformations. Ethical issues in biotechnology are addressed through debate, risk assessment, and the evaluation of news articles.

The lessons, which were field tested with students, provide cohesive concept development through hands-on activities and experiments. They help students learn about scientific processes of inquiry and discovery, providing an opportunity to examine biotechnology's impact on the environment and society.

In the St. Louis area, teachers from thirty-three school districts (115 individual schools with teachers from grades 6–12) participated in writing, pilot testing, and/or implementation workshops related to the units. The lessons developed for the Project are being published, along with laboratory materials, and special workshops have been designed to help teachers in other school districts understand how to use the materials effectively.

The Biotechnology Education Project is a joint venture of the Mathematics and Science Education Center (MSEC, a division of the Cooperating Schools Districts of St. Louis, Missouri), Monsanto Fund, and the National Science Foundation. Education specialists from the University of Missouri at St. Louis and Principia College, Illinois, provided a theoretical foundation for curriculum development and the assessment of the project.

IBM's Grants for Technology in Education

For further information, write:

Samuel Matsa
Education and University
Relations
International Business
Machines Corporation
500 Columbus Avenue
Thornwood, NY 10594

IBM's Grants for Technology in Education program was announced in 1989 as a five-year, over-$25 million initiative to help improve K–12 education through more effective use of technology in the classroom. Although it is no longer accepting grant applications, the IBM program suggests ways of improving teacher preparation with respect to computer technology and stimulating innovate computer applications in the classroom.

Through the teacher preparation grants program, new and practicing teachers are trained in the expanded use of existing information technology in classrooms. Goals are to help teachers use information technology for more effective classroom management; to develop curricula for teacher education programs in information technology and its use in the classroom; and to help teachers improve student learning by using available technology and proven techniques like instructional systems design. Two additional goals at IBM are to establish criteria for an objective assessment of the outcomes of the technology projects and to integrate classroom computing practices into the curriculum at colleges of education.

Within the teacher preparation grant program, IBM's grants of more than $23 million in cash and equipment directly affected the training of approximately 25 percent of all new teachers graduating annually in the United States. A typical teacher preparation award included a networked laboratory of IBM workstations and educational software, training and technical support, plus a small cash grant for travel and miscellaneous expenses.

The second part of the program encouraged partnerships of colleges of education and community school districts to develop innovative and effective approaches that apply new technologies, new knowledge about learning and teaching, and new understanding about cognition and instructional systems design in the classroom. This program develops classroom laboratories that can serve as technology "showcase sites," demonstrating high technology approaches to instructional delivery in the classroom. Goals are to restructure existing curricula to integrate the technologically-based learning modules into the total learning environment; to create a new multimedia, computer-based learning environment which is focused on the learner's needs and provides opportunities for effective use of technology in instructional programs; and to use technology to enhance the students' critical thinking and analytical skills. Participation in this program involved a cooperative team effort including educators, technologists, content experts from a university or college of education, and teachers and administrators from participating schools. A typical innovation award included several classrooms of IBM workstations connected through a network, interactive multimedia systems, IBM educational software, training and technical support, and a cash grant to cover new technology and staff costs.

Based on recommendations from the grant recipients, IBM has established a National Education Advisory Board with a two-fold purpose: to help in the ongoing exchange of information among the grant recipients and IBM education partnerships in California and New York, and to disseminate curricula from these institutions to educators throughout the United States. IBM's support of the National Education Advisory Board represents an additional commitment of more than $4 million over a three-year period, including the establishment of a national teacher information exchange center at the University of West Virginia College of Graduate Studies.

Distance Learning Projects Using Digital Fiber Optics

For further information, write:

Donald W. Caldwell
Contributions & Community Relations
Northern Telecom Inc.
200 Athens Way
Nashville, TN 37228

High tech companies have discovered several ways to align their corporate interests with educational needs to help schools and districts learn to use technology to expand learning opportunities for students and teaching methodologies for teachers. In some remote rural areas a two-way, full-motion video distance learning system has been established to duplicate a classroom environment, allowing students access to a greater selection of courses and the opportunity to interact with teachers and peers from around the state. Northern Telecom, seeking to work in partnership with customers to apply its technology to educational environments, has been instrumental in creating and supporting two statewide distance learning projects in Mississippi and the Oklahoma Panhandle.

Because of a weakened economic base, Mississippi schools find themselves unable to offer high school students the kinds of advanced placement courses needed to build a high-quality base for college work. They also struggle to keep highly qualified teachers in rural communities, and in many cases schools and districts were in danger of losing accreditation.

In 1991 the state initiated Mississippi 2000, an ambitious education reform program. One of its goals was to give all students the opportunity to take rigorous academic courses and learn skills and information not readily available in many of Mississippi's rural schools. Through Mississippi 2000, the state of Mississippi worked with Northern Telecom Inc., South Central Bell Telephone, International Business Machines (IBM) Corporation, ADC Telecommunications, Inc., and Apple Computer, Inc. to develop plans for a statewide, switched, multimedia, distance learning system that would use off-the-shelf hardware and software, would be open to unlimited expansion, and would be easy to use.

The Mississippi 2000 project team included educators, curriculum development specialists, university researchers, Mississippi Educational TV, telephone company engineers, and business representatives. While the team members planned the program and worked on implementation strategies, they also made a number of other contributions: South Central Bell supplied the fiber network and associated network products and services, including installation of fiber to the schools and universities; Northern Telecom Inc. supplied the video terminal equipment and integration software for control of the switched broadband network; IBM provided personal computers connected into local area networks at each school, and connected between schools on a single wide area network; ADC Telecommunications, Inc., supplied the broadband switch that gives the network its versatility; Apple Computer, Inc., provided MacIntosh workstations that act as classroom video controllers, and the Mississippi Department of Education supplied the classroom monitors and cameras, coordinates curriculum development, and monitors the project.

In its initial phase (early 1991), the network connected four high schools, Mississippi State University, Mississippi University for Women, the Mississippi School for Math and Science, and the educational TV station in Jackson, the state capital. During the first semester of operation, students were able to take courses in German, probability and statistics, creative writing, oral communication, and computer applications. Educators continue to fine-tune the curricula and develop effective teaching methods as more schools are added to the network. Mississippi plans to extend the distance learning project and to increase community participation by providing opportunities for leadership training, adult literacy volunteer training, health agency training, and industry training to local organizations and companies.

The Oklahoma Panhandle Project, created for similar concerns for students' academic opportunities in rural counties, was developed by a team including Oklahoma Panhandle school superintendents and school board members, and representatives from the State Director of Rural Education, Panhandle Telephone Cooperative, Inc. (PTCI), and its subsidiary, Panhandle Telecommunications Systems, Inc. They selected a digital, fiber-based, two-way, full-motion interactive video system to link thirteen rural Oklahoma schools in three counties and Panhandle State University. At the start of the 1989–90 school year, four schools shared courses in Accounting II, Art History, Spanish, and Advanced Placement English. During the 1990–91 school year, three additional schools joined the network and courses in Advanced Math, college-level General Psychology, and Speech Therapy were opened to students. Northwestern Oklahoma State University joined the network to teach graduate classes in educational administration.

Few would argue with the clear benefits of distance learning networks for teachers and students in rural America. Through two-way, full-motion video systems, students are offered learning opportunities — in both course material and the extended discussions and interactions with teachers and other students — that would not otherwise exist. Establishing such a network among schools, districts, and universities requires a great commitment of money from the state to expand the project, maintain equipment, train teachers and facilitators, coordinate curriculum development, and so forth. No school district has the money it would need to buy hardware, software, and join the network. While the Mississippi project got off the ground because of generous corporate donations, the question remains whether companies can extend their largesse to new districts wishing to join.

National Science and Mathematics Education Reforms

Project 2061: Education for a Changing Future

For further information, write:

F. James Rutherford
Director, Project 2061
AAAS
1333 H Street NW,
Room 1027
Washington, DC 20005

In 1985 the American Association for the Advancement of Science (AAAS) launched Project 2061, a comprehensive, long-range effort to help bring about the complete redesign of elementary and high school science education. Its Phase I report, *Science for All Americans*, published in 1989, details what all high school graduates should understand about the nature of science, mathematics, and technology as human enterprises; what they should know about the current picture of the world through these enterprises; and what skills and habits of mind they should have developed. *Science for All Americans*, the fruit of over three years of work supported by the Carnegie Corporation of New York and the Andrew W. Mellon Foundation, involved scientists, mathematicians, engineers, and educators in writing, reviewing, and revising drafts.

During Phase II of Project 2061, science teachers at six sites — San Antonio, Texas; Philadelphia, Pennsylvania; San Diego and San Francisco, California; McFarland, a suburb of Madison, Wisconsin; and three rural counties near Athens, Georgia — have been developing these recommendations into strategies directed toward three goals: (1) to help educators become better science, math, and technology teachers; (2) to create new curriculum designs; and (3) to help bring about other changes in the education system. Ten "Blueprints for Action" will describe what changes in the system would be needed for the new curriculum models to work. Blueprint topics include: materials for learning and teaching, testing and assessment policy, the organization of schools, teacher education, educational policy, educational research, equity considerations, the response of higher education to the 2061 reforms, parental and community involvement, and connecting 2061 to other curriculum reforms. Sources of funding for Phase II of the Project, in addition to those who contributed to Phase I, are the National Science Foundation, John D. and Catherine T. MacArthur Foundation, Pew Charitable Trusts, and U.S. Department of Education. IBM Corporation contributed $1.5 million in equipment and software, which is used for a communication network, word-processing, and graphics.

As product development is under way, Project 2061 is working to build support for change and to create the resources that will be needed once implementation of the new curriculum designs begins. The strategy is to start reform activities in successive waves, learning as much as possible from each wave, and to start in several key districts and teacher training institutions. 2061-like reform activities are already concentrating on implementation in partnership with the curriculum-design teams. Schools and districts selected to be "Vanguard Sites" are preparing to launch full-fledged 2061 reforms by turning curriculum models into locally designed curricula, making necessary political arrangements to support the reform, and locating financial resources to sustain the effort. What is learned from these early experiments will guide the broad national implementation of science education reform scheduled as Phase III of the Project over the next several decades.

NSTA's Reform of Science Education

For further information, write:

Russell Aiuto
National Science Teachers
Association
1742 Connecticut Avenue,
NW
Washington, DC 20009

In 1989 the National Science Teachers Association proposed essential changes in secondary school science, altering the scope and sequence of science instruction in grades 6–12. Through this reform effort, teachers are developing a science curriculum that focuses on finding answers to questions like "What is the evidence?" "How do we know?" "Why do we believe?" and "How do we find out?" Students will be expected to study biology, chemistry, physics, and earth/space science every year for six years in courses that reinforce key scientific concepts. The Scope, Sequence, and Coordination of Secondary School Science Project (SS&C) addresses the problem of how science is traditionally taught in uncoordinated, highly abstract and comprehensive overviews that neither motivate students nor help them to understand science. Using the conceptual framework described by AAAS's Project 2061, NSTA will determine the scope, sequence, and coordination of each year of science classes to reach the goal of "Science for all Americans."

With major funding from the National Science Foundation, U.S. Department of Education, and state agencies, SS&C pilot sites have been established in California, Iowa, North Carolina, Puerto Rico, and in several major cities including Houston, Texas. Each site has a unique way of interpreting SS&C for its needs. For example, the Iowa project is being developed at four sites representing different types of school districts from rural to urban and uses science, technology, and society as the vehicle for teaching science in grades 6–12. With support from the Iowa Utility

Association, teachers at each site create materials and teaching modules and develop expertise in teaching strategies.

The implementation of SS&C in Houston is taking place in the seventh grades of three large middle and junior high schools. Project directors from Baylor College of Medicine have developed classroom and teaching materials and implemented the project. Seventh grade teachers are trained in workshops to use the integrated series of materials that relate science to a wide range of other disciplines.

NSTA's Task Force on Elementary Scope, Sequence, and Coordination Project, with a grant from the Monsanto Fund, is launching a comprehensive national change strategy designed to help local school districts improve their elementary school science programs. Because it believes that the weakness of elementary school science is as much a problem of implementation as of scope and sequence, NSTA is proposing to develop a set of Standards Basic to Good Elementary School Science Teaching, help reform pre-service and in-service elementary teacher education, and improve classroom science teaching applications. Through several national meetings, science educators and scientists are developing a strategy for change in elementary school science. Among other goals, NSTA plans to provide school administrators and other educators, as well as parents and community-based groups, with specific ideas on how to improve the kind and quantity of science instruction elementary school students receive. Materials, assessment tools, data bases, and a cadre of experts will be made available to schools and districts seeking to change elementary school science.

Mathematics Education Reform

For further information, write:

James D. Gates
Executive Director
National Council of
Teachers of Mathematics
1906 Association Drive
Reston, VA 22091

Also:
Marcia P. Sward
Executive Director
The Mathematical
Association of America
1529 18th Street, NW
Washington, DC 20036

Also:
Ray Shiflett
Mathematical Sciences
Education Board
818 Connecticut Avenue,
NW, Suite 500
Washington, DC 20006

Teachers of mathematics are leading a nationwide effort to bring about a complete redesign of school and college/university mathematics programs. By means of an unprecedented series of publications, they have set new and more demanding standards for what students must learn about mathematics and for what the teachers themselves must accomplish as professionals in the classroom. The reform of mathematics curriculum and instruction is directed toward achieving two major results:

1. Student performance will shift from a narrow focus on routine skills to development of broad-based mathematical power. Among other things, students will be able to perform mental calculations and estimates with proficiency; know which mathematical methods are appropriate in particular contexts; use calculators and computer software confidently and appropriately to perform mathematical tasks; and make decisions based upon the collection, representation, and interpretation of real data.

2. Teacher performance will shift from authoritarian models based on "transmission of knowledge" and "drill and practice" to student-centered methods featuring "stimulation of learning" and "active exploration." Teachers will help students learn how to verbalize their mathematical ideas; explore mathematical questions with careful reasoning and disciplined understanding; and understand that some mathematical questions have more than one right answer.

The new national expectations for the mathematical education of all students are paralleled by new expectations for the teaching of mathematics. The development of professional standards for the teaching of mathematics at all levels, pre-kindergarten through college, has been a cooperative endeavor of the National Council of Teachers of Mathematics, the Mathematical Association of America, the Mathematical Sciences Education Board, and the National Research Council. Publications of these organizations set forth necessary fundamental changes in the preparation, evaluation, and continuing development of precollege and college mathematics instructors. In the case of precollege instruction, these documents provide a basis for the performance criteria in mathematics to be used by the National Board for Professional Teaching Standards (see description on p. 88).

Since 1920, the National Council of Teachers of Mathematics (NCTM) has been dedicated to the improvement of school mathematics instruction at all levels, and two recent NCTM publications have provided a vision for the current reforms in teaching and learning of mathematics in elementary, middle, and high schools: *Curriculum and Evaluation Standards for School Mathematics* (1989) and *Professional Standards for Teaching Mathematics* (1991). These standards have been developed by NCTM to provide a common philosophy and framework that is flexible enough to allow for local and regional variations. Exxon Education Foundation's K–3 Mathematics Specialist Program (see description on p. 55) is one of hundreds across the country working to implement the reforms.

While the principle focus of the Mathematical Association of America (MAA) is undergraduate mathematics, it has recently published *A Call for Change: Recommendations for the Mathematical Preparation of Teachers of Mathematics* (1991), in collaboration with NCTM. The work of MAA in producing and disseminating this document was, in part, supported by a grant from the Exxon Education Foundation.

The Mathematical Sciences Education Board (MSEB) was created in 1985 by the National Research Council and charged with the task of stimulating, coordinating, and assessing national reform of mathematics education. This alliance of leaders from education, corporate, government, and public sectors has guided the development and publication of national action plans to establish a new vision for school mathematics in America, to revitalize the content and teaching of collegiate mathematics, to increase successful involvement in the mathematical sciences of women and minorities, and to set new and higher standards of assessment for both students and the mathematics curriculum.

To facilitate the translation of these national standards into state policies and local actions, MSEB has established a network of state-level mathematical alliances and has linked them electronically to each other and to other key leaders of mathematics reform. To assist teachers and administrators in understanding and implementing the proposed new standards for mathematics, the MSEB is now beginning the preparation of a video library that will illustrate and illuminate those standards.

Several public, corporate, and private foundations provide support for mathematics education reform and, in particular, the work of the Mathematical Sciences Education Board. These include AT&T Foundation, Carnegie Corporation of New York, Citicorp/Citibank, Exxon Education Foundation, Ford Foundation, IBM Corporation, John D. and Catherine T. MacArthur Foundation, National Science Foundation, National Security Agency, Shell Oil Company Foundation, Teagle Foundation, U.S. Department of Education, U.S. Department of Energy, Weingart Foundation, W.K. Kellogg Foundation, as well as a variety of other federal agencies.

Reading, Writing, and Student Literacy

National Writing Project

For further information, write:

James Gray
Director, National Writing
Project
School of Education
University of California
Berkeley, CA 94720

The National Writing Project (NWP) is an expanding network of university/school programs to improve the quality of writing and the teaching of writing in the nation's classrooms. Through a range of ongoing programs — including invitational summer institutes, series of workshops at school sites, extensive writing experiences for classroom teachers, teacher-research projects — the Project seeks to accomplish three goals: to help teachers from all levels of instruction, elementary school through university, learn successful strategies for teaching writing so that the quality of student writing improves; to extend the uses of writing to improve learning in all academic fields; and to provide universities and schools with an effective model of professional development for teachers through content-specific training.

Several elements of the National Writing Project illustrate its effectiveness as a staff development program. Created as a collaborative university/school partnership, the Project taps and disseminates what is known about the teaching of writing from the best practices of successful writing teachers as well as from research. Each year, master writing teachers from all grade levels are identified and brought together in invitational summer institutes where they demonstrate their best practices for teaching writing to each other, examine key research in the teaching of writing, write a great deal themselves, and edit each others' written pieces in writing response groups. Through such experiences, this corps of master teachers is trained to instruct other teachers in the variety of programs the Project sponsors at school sites during the school year. The National Writing Project's teachers-teaching-teachers model has proven to be so effective that the project now attracts over 100,000 participants each year to its summer and school year programs. Because change in the classroom happens over time, the Project believes that effective staff development must be ongoing and systematic — building expertise and increased awareness as teachers come together regularly throughout their careers. The Project, therefore, offers numerous follow-up programs that provide opportunities for all participating teachers to continue writing and learning about teaching writing.

The Project conducts ongoing evaluation of its many programs. In 1984 it published *The National Writing Project Evaluation Portfolio*, a collection of thirty-two studies that document the positive impact the project has had on student writing and the teaching of writing. In survey responses, teachers almost unanimously reported positive changes in their teaching practices as a result of their NWP training and described its effect on their work as far more important than any other in-service training they had received. Statistically and educationally significant gains were noted in the writing skills of students taught by NWP teachers, and these gains lasted over an evaluation period of three years.

Begun during the 1973–74 school year as The University of California, Berkeley Bay Area Writing Project, the National Writing Project has developed an expanding network that now numbers 145 sites in 45 states and Puerto Rico plus nine sites in six foreign countries, with an additional four overseas sites serving teachers and students in the Department of Defense Dependents' Schools and in U.S. Independent Schools. The NWP, initially funded with grants from the National Endowment for the Humanities and the Carnegie Corporation of New York and more recently by the Andrew W. Mellon Foundation, is now a federally funded program, with the passage of the Education Council Act of 1991. The Act authorizes $10 million a year for the National Writing Project plus an additional $500,000 a year for research and development. The first year appropriation of $2 million will support further expansion of the project nationwide, increased networking among sites and teachers, increased dissemination of successful teaching practices and important research, in addition to providing matching funds to current sites within the NWP network. Local programs receive funds from a variety of sources (see descriptions below of the Chase/Lehman College program in New York City, the Urban Sites Writing Network, and the Writing Assessment Project in Philadelphia).

The influence of the National Writing Project now extends beyond improving the teaching of writing in the nation's classrooms. In California the success of the statewide California Writing Project network has led to the support and development of six additional subject matter projects: the California Science, Mathematics, History and Social Studies, Foreign Language, Literature, and Arts Projects, with funding provided by the University of California Board of Regents and the California Department of Education.

Chase/Lehman College Writing and Learning Program

Since 1986 Chase Manhattan Bank has provided over $736,000 to a program to improve the teaching of writing as a mode of learning in seven New York City public junior high schools. Administered through Lehman College's Institute for Literacy Studies, the program's ultimate goal is to develop students' abilities to use writing as a tool for thinking and learning and to express their ideas effectively. Toward these ends, it has concentrated on developing teacher professionalism and building administrators' active support for writing across the curriculum.

Like the National Writing Project, on which the Writing and Learning Program is modeled, Lehman's Institute for Literacy Studies helps teachers build their capacity to teach writing and increases their effectiveness in using writing in their classes. Through after-school courses in writing across the curriculum, four-week summer institutes, workshops, and training seminars, teachers meet regularly to write, respond to drafts of each other's writing, exchange effective strategies for teaching writing, study current research in the field of writing, and learn ways to adapt research to classroom practice. A writing committee is established in each school to provide ongoing support for teachers in experimenting with different ways to teach writing.

The success of the Chase/Lehman writing project is evident both in the changes in teacher attitudes and practices and in the quality and amount of student writing. A 1989 evaluation by the Educational Testing Service revealed that teachers have incorporated new strategies in their daily teaching and have gained significant confidence in teaching writing. Students are doing considerably more writing in a greater variety of forms, and, in many cases, the quality of their writing has improved dramatically. As the program continues, it seeks to extend the number of writing opportunities for students by ensuring that writing becomes a major component in most subject areas.

For further information, write:

David S. Ford
Vice President and Director
of Philanthropy
or
Kerry G. Yeager
Contributions Officer
The Chase Manhattan
Bank, N.A.
2 Chase Manhattan Plaza,
29th floor
New York, NY 10081

Urban Sites Writing Network

For further information, write:

Richard Sterling
Director, Institute for
Literacy Studies
Lehman College
The City University of
New York
Bronx, NY 10468

Students in urban schools around the country are the potential beneficiaries of their teachers' increased expertise as a result of a $2.9 million grant to the Institute for Literacy Studies at the City University of New York's Lehman College from the DeWitt Wallace-Reader's Digest Fund.

The three-year grant will support the expansion and enhancement of the Urban Sites Writing Network of the National Writing Project, a program that teaches master teachers how to improve the teaching of writing in urban elementary, middle, and secondary schools (see description p. 70).

Over the next three years, experienced National Writing Project teachers will begin to determine how writing can be taught most successfully in urban schools by identifying, analyzing, and making explicit the knowledge, understanding, and daily intuitive decisions on which their own classroom teaching is built. Participating teachers will seek to answer complex questions that face today's educators: How do teachers help students to represent their thinking in writing? How do teachers draw on children's cultural backgrounds to support learning and how do teachers involve parents and community in that effort? What is the relationship between language and learning in ethnically diverse classrooms? At a time when the value of standardized tests has been seriously questioned, how do teachers demonstrate and assess children's progress? How do race and class impact on the way teachers interpret and talk to each other and their students?

The national project will provide these urban teachers with resources university-based education researchers have long considered essential: time, methodological support, and access to colleagues with whom they can reflect on their practice. The Urban Sites Writing Network teachers will participate in national summer institutes, local seminars, and a computer conferencing network designed to support communication among teachers in different cities.

It is anticipated that dissemination efforts will reach 5,000 pre-kindergarten to twelfth grade teachers directly, and that videos, publications, workshops, and conferences will have an impact on many more teachers, parents, and policy makers. Teachers' detailed classroom descriptions, their strategies and rationales, and their consciously articulated teaching philosophies will become part of the public domain. The Urban Sites Writing Network intends to inform practice in urban schools across the country.

Philadelphia's Writing Assessment Program

For further information, write:

Andrew Gelber
Director of School Programs
PATHS/PRISM: The
Philadelphia Partnership
for Education
7 Benjamin Franklin
Parkway, Suite 700
Philadelphia, PA 19103-1294

In the 1984–85 school year, the School District of Philadelphia, in collaboration with the Philadelphia Alliance for Teaching Humanities (PATHS), launched the districtwide Writing Across the Curriculum Project, the largest school-based writing project in the country. With initial funding from Greater Philadelphia First Corporation, Pew Charitable Trusts, and Rockefeller Foundation, the writing project emphasizes the centrality of teachers to the improvement of education and works to meet its goals through school-based writing teams, teacher-to-teacher networks, and citywide workshops and symposia.

Philadelphia teachers also have the opportunity to participate in intensive Summer Writing Institutes offered by the Philadelphia Writing Project, a site of the National Writing Project at the University of Pennsylvania. Following their Institute training, teachers return to their schools as Teacher-Consultants who provide staff development training and participate in teacher-to-teacher collaboration.

In the summer of 1986, Superintendent Constance E. Clayton asked for PATHS' assistance in designing a model for assessing students' growth as writers in school, reflecting the practices and perspectives encouraged by the Writing Across the Curriculum Project that had been launched in 1984–85.

The Writing Assessment Program in the School District of Philadelphia began in the 1986–87 school year, with a citywide survey of teachers' actual practices concerning the uses of writing as part of classroom instruction. Teachers who responded voluntarily to the survey were eligible to participate in workshops and other activities to explore students' developing abilities as writers.

In 1986–87, 1987–88, and 1988–89, the Writing Assessment program featured citywide workshops for teachers of grades three, five, seven, and eleven. During those years, the program became fully interdisciplinary; seventh grade workshops included teachers of English, social studies, and science, while eleventh grade workshops included teachers of English, social studies, and mathematics. 1988–89 also saw the piloting of a school-based format for the program. Participants were comprised of a team of teachers spanning the grades and disciplines represented in a particular school. The experience proved so successful that the 1989–90 program was conducted exclusively as a school-based program in fifteen schools, including elementary, middle, and senior high. The 1990–91 program blended the strengths of citywide and school-based formats: Pairs of third grade and sixth grade teachers from seventy schools across the city participated in workshops and then returned to their schools to conduct a follow-up component with their faculty colleagues.

Two key areas of focus have informed the program since its inception: (1) helping teachers to design effective writing assignments, across the grades and disciplines, that are fully integrated with the ongoing instructional program, and (2) helping teachers to develop a rich repertoire of strategies for assessing students' growth as writers and applying those assessments to enhance the effectiveness of instruction. Teachers have worked together to develop criteria for defining students' success and difficulties in meeting the demands of writing assignments and to generate common expectations for student writers at particular grade levels and within particular disciplines.

The Writing Assessment Program's aim is to facilitate critical reflection on students' writing abilities and teachers' instructional practices in ways that will enable both to improve. These goals have been met for more than 750 Philadelphia teachers during the past five years.

The Writing Assessment Program is coordinated by PATHS/PRISM: The Philadelphia Partnership for Education, with funding from the School District of Philadelphia. Support for PATHS/PRISM's diverse array of activities also comes from a variety of corporate and private foundations, including Pew Charitable Trusts, National Science Foundation, National Endowment for the Humanities, ARCO Chemical Company, and Rockefeller Foundation.

Reading Is Fundamental: Developing Readers for Twenty-Five Years

Reading Is Fundamental, begun in 1966, is a grassroots network of community-based projects in all fifty states designed to interest children in reading. RIF reaches children at more than 3,000 schools, libraries, community centers, migrant work camps, shelters, and hospitals, involving them in reading motivational activities and enabling them to select books to own — more than 110 million to date — at no cost to them or their families. By providing books to children, giving parents the tools to promote reading in the home, and supporting school activities to advocate reading, RIF works to create a climate in homes, schools, communities, and the nation that supports and encourages children's reading.

Many of RIF's major programs receive vital support from corporations, foundations, and other organizations. These partnerships make it possible for RIF to involve children across the country in contests and challenges, conduct pilot programs designed as models for wide application, and provide selected communities with comprehensive support for reading. Some of the corporate-sponsored programs include:

- "Running Start," funded through $2.1 million/three-year grant by Chrysler Corporation Fund, brings reading motivation and books to first graders in and around eleven cities where Chrysler has facilities. Through "Running Start," families receive easy-to-use materials to help first graders read their books, teachers receive a handbook of classroom ideas and send-home activities, and students receive books and positive reinforcement for each book read.
- Ameritech Foundation awarded RIF a $150,000 grant to be distributed equally among the Bell companies' states to support program creation and development.
- "Open Book," a pilot RIF program started in 1990, brings books and reading centers to children in homeless shelters in cities across the nation and is supported by a $15,000 grant from Xerox Foundation.
- With a $67,500 grant, New York Life Foundation funds "Shared Beginnings" to provide literacy services and books to adolescent parents and their young children through neighborhood centers, alternative schools, and other community-based organizations.
- Many local and national newspapers have provided funds to RIF for the development of programs in their geographic areas or with specifically targeted populations among their readership. Knight Foundation has awarded a three-year, $150,000 grant to support and expand RIF programs in Knight-Ridder newspaper cities. Other RIF-supporting newspapers include the *Los Angeles Times, New York Times, Washington Post, Providence Journal, St. Petersburg Times, Boston Globe, Chattanooga Times, Trenton Times, Orlando Sentinel,* and others.

Many corporations designate their donations for specific geographic locations or populations: The Santa Fe Pacific Foundation supports projects along the company's railroad line; ARCO Foundation sponsors thirty RIF projects in Alaska; and J. C. Penney Company supports dozens of RIF projects serving Hispanic young people. Among other corporate supporters are: General Electric Foundation, Metropolitan Life Foundation, Hallmark Corporate Foundation, Nestle, H.J. Heinz Foundation, Pennzoil Company, Bell Atlantic Charitable Foundation, Champion International Corporation, International Paper Company Foundation, Tenneco Inc., Ford Motor Company Fund, Capital Cities/ABC, RJR Nabisco, Allied-Signal Inc., Ethyl Corporation, Dun & Bradstreet Corporation, Merrill Lynch & Co. Foundation, Pfizer Foundation, Reader's Digest Foundation, Tandy Corporation, Times-Mirror Foundation, and UNISYS.

For further information, write:

Wade St. Clair
Director, Program Research
& Development
Reading Is Fundamental
600 Maryland Avenue, SW,
Suite 500
Smithsonian Institute
Washington, DC 20560

Junior Great Books and Read-Aloud: Learning to Enjoy Literature

For futher information, write:

Steven Craig
Editor
Great Books Foundation
35 East Wacker Drive,
Suite 2300
Chicago, IL 60601-2298

In 1962 Great Books Foundation launched Junior Great Books, a program of children's classics, folk and fairy tales, and modern short stories from cultures around the world designed to encourage students from second through twelfth grade to enjoy reading and teach them how to interpret what they read. In Junior Great Books, students read short works of outstanding traditional and modern literatures and participate in "shared inquiry" discussions. Shared inquiry gives students a regular forum in which to exchange their ideas about the text, develop interpretations, question assumptions, listen to other points of view, and understand an author's intention and meaning. Great Books Foundation provides the texts, which are specially selected for their power to sustain discussion, and trains teachers, parents, librarians, and others in the community to be discussion leaders.

An estimated 800,000 students participate in the Junior Great Books program nationwide. Long recognized as an outstanding reading program for gifted students, this program is being used increasingly to provide reading and critical thinking instruction to average and less able readers. The program's rich literature challenges good readers while stimulating poor readers who, too often, have been put off by less engaging remedial materials. For many students, Junior Great Books is their first opportunity to exchange ideas about a story with their peers and to think critically about the literature they read.

A statewide promotion of the program in West Virginia is being sponsored by the West Virginia Humanities Council with support from the State Department of Education. Now in its last year, the four-year campaign has enjoyed considerable support from the business community. So far, more than thirty West Virginia companies — including Eastern American Energy Corporation, First National Bank of Bluefield, Monongahela Power Company, Morgantown Energy Associates, National Bank of Commerce, and Matewan National Bank — have donated close to $200,000 to train teachers and provide books. In Harrison County, for example, C&P Telephone and CNG Transmission/Hope Gas made it possible for 2,500 elementary and secondary school students to participate in the program. Since 1989, approximately 1,100 teachers in fifty-two of the fifty-five state counties have been trained to implement Junior Great Books in their schools.

In 1990 Great Books Foundation piloted a new Junior Great Books Read-Aloud Program for children in kindergarten and first grade. The Read-Aloud program was created to give prereaders and beginning readers the opportunity to engage in the same kind of thoughtful interaction with literature as their older counterparts have in Junior Great Books. During the course of a week, children hear a Read-Aloud selection read both at home and at school at least three times. They respond to each selection through various activities, such as taking "art notes" to illustrate the text, listing "My Favorite Words" when they encounter words that please them, or acting out favorite scenes from the stories. The Read-Aloud program includes at-home activities for parents, suggesting they help their children write down questions about the reading for use the next day in class. The Read-Aloud program is part of an effort to bring Junior Great Books to more students in the regular classroom. To encourage this in every grade, the Foundation is developing additional materials to help teachers make the program a daily part of the regular curriculum.

To test what students gain from these new curriculum materials, the Foundation recently conducted an evaluation of the program in twenty third grade classrooms in Chicago, Illinois. The study, conducted during the 1991–92 school year, was underwritten by three local funders: Robert R. McCormick Charitable Trust, Prince Charitable Trusts, and R.R. Donnelly & Sons Company. Pre- and post-tests were administered to measure students' reading comprehension, critical thinking, and attitudes toward reading; students in the program will be compared with students in control-group classes in the same schools. The study will help the Foundation answer such questions as: Will the program improve students' reading comprehension and critical thinking skills? Will students in the program exhibit stronger motivation to read in school and on their own? Will they be better able to develop interpretations of a text and to back up their ideas with evidence? Results of the study will help teachers use an expanded Junior Great Books program to reform the reading and language arts curricula for all students, not only for those already reading well.

To further encourage adoption of the Junior Great Books program for average and less able readers, the Foundation has developed a week-long summer institute for teachers of disadvantaged students. Based on a Great Books institute recently funded by a grant from Edna McConnell Clark Foundation, the new training program will give thirty to forty teachers an intensive introduction to the Great Books method of learning, with an emphasis on strategies for involving less able readers. In the next few years, the Foundation hopes to co-sponsor a series of these institutes throughout the country.

Mattel Foundation's Learning Centers for Students with Special Needs

For further information, write:

Janice Nakayama
Administrator
Mattel Foundation
330 Continental Boulevard
El Segundo, CA 90245-5012

In February 1990 Mattel Foundation launched a computer learning/literacy program for special needs elementary school students that combines highly specialized training for special education teachers with software especially adapted for learning-disabled children: dyslexic, autistic, educably retarded, deaf or hard of hearing, aphasic (language-disabled), visually handicapped, seriously emotionally disturbed, and multiple handicapped.

The Mattel Foundation Computer Learning Lab program is based on the Writing to Read computer-based instruction system, which uses a phonemic spelling system to allow students to write anything they can say. This practice helps eliminate students' confusion caused by the numerous inconsistencies and complex rules of the English spelling system. By using forty-two phonemes consisting of letter/sound combinations, the program also helps students recognize speech sounds and allows them to write at a much earlier stage than do normal teaching methods.

Each class spends one hour in the lab, working in fifteen-minute segments at the following stations: Computer station, Work Journal station, Listening Library station, Writing/Typing station, and Make Words station. The Computer station — using Writing to Read as well as Speechviewer, Kidware, Talking Textwriter, and, for bilingual students, Voy a Leer Escribiendo — provides intense, multisensory instruction during which students see, hear, say, and type all the words and sounds in the Writing to Read program. The Work Journal station reinforces the computer lessons and provides additional practice for students to write the words they hear and say. At the Listening Library station, students match spoken words with written words by using audiocassettes of children's literature, and at Writing/Typing they have the opportunity to developing writing skills. The Make Words station supports the alphabetic principle by helping the students to discover that letters and sound symbols can be recombined to make new words. At this station, students use sand, paper, small floor tiles, letter stamps and pads, macaroni, wooden blocks, and other "fun" objects to form the words.

The Mattel Foundation Computer Learning Lab program expands traditional teaching roles by requiring instructors to act as managers of the teaching components (computers, audiocassettes, and other items) and coordinators of the individual learning pace of each special education student. All Computer Learning Lab instructors are required to attend a three-day, twenty-four-hour training session prior to their school's program launch. The teachers are also asked to involve parents of the students as often as possible, encouraging them to visit classes and even to volunteer in the lab.

Mattel's pilot program began in February 1990 at five sites in five different Los Angeles County school districts, and in 1991–92 was extended to thirty schools nationwide.

CHART: Restructuring Schools Through Curricular Reform

For further information, write:

Judith Renyi
Director
CHART
1811 Chestnut Street, Suite 501
Philadelphia, PA 19103-3725

Collaboratives for Humanities and Arts Teaching (CHART) was initiated in 1983 by Rockefeller Foundation to address the development and fostering of arts and humanities education in urban and rural public schools. The Foundation is committed to the belief that average students in these schools will gain access to a whole range of knowledge and to lifelong success through direct engagement with the power of reading and writing and through understanding cultures of the past and present. CHART programs operate from the premise that teachers' knowledge and professional growth must first be addressed before student achievement can be improved. As a result, CHART projects focus on teachers' intellectual development by offering programs ranging from summer institutes and school-year symposia to grants for classrooms and schools.

Fourteen programs have been created around the country through CHART, focusing on multicultural and international arts and humanities. Each project was designed by local business, community, and education leaders, in conjunction with teachers, to meet both local educational goals and community needs, while expanding existing resources and opportunities for staff and curricular development.

CHART is currently evolving into an important agent for systemic change. Although school change was not originally a primary objective for CHART projects, many key aspects of restructuring develop naturally from the curricular-driven reforms in CHART schools. For example, interdisciplinary and team-teaching experiences require changes in teacher participation in curriculum planning and development, professional development programs, and class schedules. In conjunction with other school reform initiatives sponsored by Rockefeller Foundation, CHART is working towards policy change at state and district levels to support reforms initiated by collaborative work in the schools.

CHART's projects were initially supported by grants from the Rockefeller Foundation and are sustained by partnerships and sponsorships on the local level. Contributors to CHART projects include Aetna Foundation, Ahmanson Foundation, W.K. Kellogg Foundation, Southeast Bank, N.A., Sunwest Financial Services, Inc., and Showa Denko K.K., among scores of other local and national supporters.

Public Education Coalition's Literacy League

For further information, write:

Susan Zimmermann
Executive Director
Public Education Coalition
1410 Grant Street, Suite A-101
Denver, CO 80203

Denver's Public Education Coalition created the Literacy League in 1985 to provide supportive classroom training to elementary school teachers with the goal of improving learning opportunities for children, specifically in reading and writing. The League works to create a "literate school" environment where children read, write, share, discuss, and publish their writings. In workshop settings, children spend large blocks of time reading books of their choice and writing about topics of interest.

A school is selected to join the Literacy League when the principal and a core groups of teachers exhibit a strong commitment to teaching the reading/writing process. The initial, intensive training lasts four to six weeks with a trainer working at the school two days a week, helping teacher establish Writing Workshops in their classrooms, discussing strategies for effectively teaching children to read and write, planning demonstration lessons that focus on the teachers' needs and goals, and demonstrating reading and writing lessons. After the intensive program, the trainer is available to work with the school every month for the remainder of the school year. Through the Literacy League, the Coalition holds conferences and a week-long summer institute with national and local experts, organizes and underwrites reading and writing groups for teachers and parents, provides full faculty and parent training sessions, and holds planning sessions during the school year for teachers and principals. From its beginnings as a pilot project of five schools, the Literacy League has now expanded to thirty-five elementary schools in the Denver area.

In 1990 the Coalition introduced the Reading Project, an extension of the Literacy League, to produce fluent readers and to instill in children the joy of reading. Piloted in four elementary schools, the Reading Project purchases books for classroom libraries and helps teachers establish reading workshops and learn effective teaching strategies. Students are given prolonged daily opportunities to read books of their choice and are taught to summarize main points and challenge the information they read so they develop an active involvement with the text.

Both the Literacy League and the Reading Project are funded through grants to the Public Education Coalition of Denver. Among the corporate and foundation supporters are Gates Foundation, Piton Foundation, Boettcher Foundation, Gannett Foundation, Columbia Savings, Citibank, Helen K. and Arthur E. Johnson Foundation, and Apache Corporation.

Success in Reading and Writing

Success in Reading and Writing, a program created at Duke University, is designed to improve reading and writing skills by using newspapers, magazines, and leisure books in addition to textbooks. During the 1978–79 school year, the *Washington Post* brought the program to the attention of the District of Columbia public schools. In partnership with the district, the *Post* provides discounted newspapers, teacher training, teacher materials, and the salary for a school coordinator to oversee the program in over 300 pre-kindergarten through sixth grade classrooms.

Success in Reading and Writing includes phonics and spelling instruction as it introduces students to a wide range of reading materials and helps them learn to relate information to their everyday life. It encourages students to write creative and informative stories and provides opportunities for teachers to supplement material in various subjects, including mathematics, science, social studies, and geography.

In those classrooms where the program is used, students gain from both the materials and teaching practices. Instead of using prepackaged vocabulary, for example, Success in Reading and Writing incorporates the children's vocabulary in the lessons. "Reading groups" that reflect ability grouping are eliminated as students work together on reading and writing projects. Homework assignments are incorporated into the program, and teachers keep longitudinal records to reflect gains in students' reading and writing skills.

For further information, write:

Vincent E. Reed
Vice President/
Communications
The Washington Post
Washington, DC 20071

Time Warner's Time to Read

Concerned about the growing number of Americans who cannot read well enough to fill out job applications, understand supermarket ads, or read basic instructions, Time Inc., now Time Warner Inc., launched a national volunteer tutoring program. Time to Read, an instructional program to combat functional illiteracy among adolescents and adults (ages twelve and older), began in 1985 as a community partnership between local businesses, institutions, schools, and community organizations. The program trains volunteer tutors to use innovative teaching methods and materials to improve the learners' reading, thinking, and vocabulary skills. Volunteers spend two hours a week for one year with one learner, or with a group of two to five learners, using Time Warner Inc. magazines and a curriculum developed especially for the program.

Time to Read has grown from five pilot sites in 1985 to seventy-eight sites in fourteen states with nearly 4,000 volunteer tutors and learners in 1990. These projects represent partnerships among thirty businesses, three colleges, a church, thirty community-based organizations, two community colleges, two prisons, twenty-seven schools, and six worksites.

Independent evaluation surveys commissioned by Time Warner Inc. found that of the adolescents and adults in the program, 79 percent improved their reading scores, 93 percent reported enjoying reading more than before they began coming for tutoring, and 95 percent said they read better as a result of Time to Read.

For further information, write:

Toni Fay
Director, Corporate
Community Relations
Time Warner Inc.
Rockefeller Center
New York, NY 10020

Teacher Recruitment, Education, and Professional Development

Teacher Recruitment

The DePaul University Urban Teacher Corps

Central to Chicago's school reform efforts is the need for qualified teachers to work with students in inner-city classrooms and serve on school-based management teams. The Center for Urban Education at DePaul University, through partnership with and funding from AT&T, has designed a one-year, school-based teacher certification program (authorized by the State of Illinois and recognized by the Chicago public schools) to select and prepare teachers to teach at ten inner-city Chicago schools.

A $350,000 AT&T investment enabled the Center to bring together inner-city teachers, principals, parents, and professors to design the Urban Teacher Corps, an innovative program preparing professionals to change careers and work effectively as teachers in inner-city classrooms. The program, which recruits teachers from the corporate community and from returned Peace Corps volunteers, is site-based. Incoming teachers learn how to teach by working in inner-city schools with mentoring teachers who help them develop the knowledge and skills they need in order to teach effectively.

The DePaul University Urban Teacher Corps prepares teachers to work cooperatively with members of the school community, particularly with parents, stressing connections between the classroom and the community, between incoming teachers and mentoring teachers, between concepts and the realities of the inner city. It prepares teachers to use a project-based approach to instruction, which incorporates cooperative learning approaches through curricular materials (such as Reading/Writing/Thinking Chicago and Community Math) developed by the Center for Urban Education to involve students and parents in learning about who they are, where they live, and what they can achieve.

Twenty-five candidates were selected as the first cohort of the Urban Teacher Corps during the summer of 1991. After an orientation process led by experienced teachers, Corps members began working as interns in ten Chicago public schools during the week and participating in course work and workshops sessions on Saturdays. The in-school experiences, with mentoring teachers and principals, will complement the formal course experiences and give Corps members the opportunity to link the course content to in-school work.

The DePaul Center for Urban Education designed the Urban Teacher Corps for the Chicago public schools, but the model can be used for preparing teachers to work effectively in inner-city schools in other cities. The program is based on five premises:

1. Teachers in inner-city schools need special preparation.
2. Teacher preparation must be based in the schools and communities in which the teachers will work.
3. Teaching must reach out to students, parents, and community.
4. Teaching must link students to subjects, subjects to neighborhoods, the neighborhood to the city, the city to the nation and the world.
5. The planning of teacher education must be collaborative among administrators, teachers, and members of the school community.

For further information, write:

Barbara Radner
Director, Center for Urban Education
DePaul University
2323 North Seminary Avenue
Chicago, IL 60614-3298

Also:

Secretary, Education Programs
AT&T Foundation
550 Madison Avenue
New York, NY 10022

Key to developing such a program is the involvement of practicing teachers and administrators from inner-city schools. The first step in the planning process must be maintaining and nurturing an ongoing relationship with the schools. The planning team should include representatives of the different positions of the schools and communities as well as members of the university who have substantial experience in working with inner-city schools. And teachers, parents, and principals must play a central role in establishing specifications for the teacher preparation program.

The Urban Teacher Corps has just begun to train its first group of inner-city teachers; each year it intends to prepare another twenty-five career changers for the classrooms. As these new teachers are certified, they will be placed within the network of public schools working with the Center for Urban Education and will help train others following them in the program. The Center is also beginning to explore ways to incorporate elements of the program in the undergraduate teacher preparation program at the university.

AT&T's support of the Center for Urban Education and the Urban Teacher Corps program marks a strengthened commitment on the part of the corporation to teachers and the reform of teacher education. In the fall of 1991, AT&T Foundation announced the AT&T Teachers for Tomorrow program (see p. 85) designed to focus on the clinical preparation of teachers and foster serious and long-term collaboration among urban school systems, local universities, and teacher bargaining representatives to improve and reform teacher preparation.

Southern Education Foundation's Consortium on Teacher Supply and Quality

For further information, write:

Robert A. Kronley
Senior Consultant
Southern Education
Foundation
135 Auburn Avenue,
2nd floor
Atlanta, GA 30303

With a $90,000 planning grant from BellSouth Foundation in 1988, the Southern Education Foundation developed a long-range plan to increase the number and quality of African American teachers for the nation's schools. The resulting program, Consortium on Teacher Supply and Quality, is a partnership that links traditionally black colleges, leading graduate schools of education, and philanthropic institutions in a cooperative effort to increase the number of African American teachers in the South.

An additional $910,000/four-year grant from BellSouth and $750,000 from Pew Charitable Trusts provided funds for planning, developing, and implementing a multi-faceted program of recruitment and retention strategies, which begin with sixth graders and continue to the professional and college faculty level. The programs are designed not only to interest black students in choosing teaching as a career, but also to help them progress through the educational pipeline by strengthening their academic skills. The result, Consortium leaders hope, will be an increase in both the quantity and quality of minority teachers.

Through the Summer Scholars Program, students from six historically black colleges (Albany State College, Bethune-Cookman College, Grambling State University, Johnson C. Smith University, Tuskegee University, and Xavier University of Louisiana) attend a six-week course of study, discussion, and classroom observations at one of the three participating graduate schools of education (Harvard Graduate School of Education, Teachers College at Columbia University, and Peabody College of Vanderbilt University). The Teacher Cadet Program brings middle and high school students to participating college campuses for classes designed to strengthen their academic skills and build their self-confidence, preparing them to achieve their goals for college and teaching careers. A six-week residential Summer Enrichment Program offers fifteen rising seventh graders and fifteen rising seniors a variety of academic enrichment sources, practice in developing lesson plans, and opportunities to tutor kindergarten through fourth grade students in reading and mathematics.

SEF's success with the Consortium on Teacher Supply and Quality led to an invitation from the Ford Foundation to manage similar consortia in North Carolina and Louisiana. In 1990 SEF developed a consortium of eleven institutions in North Carolina, and is working with Xavier, Tulane, and Grambling State universities to create a similar consortium in Louisiana. The consortia are planning a variety of approaches to increase the number of minority teachers in their states, including value-added scholarship programs; enrichment experiences for middle school, high school, and college students; and the development of new curricula for education faculties.

In addition to major funding from BellSouth Foundation and Pew Charitable Trusts, the Consortium has received support from Hitachi Foundation and W.K. Kellogg Foundation.

Recruiting New Teachers

For further information, write:

David Haselkorn
President
Recruiting New Teachers, Inc.
385 Concord Avenue,
Suite 100
Belmont, MA 02178

Recruiting New Teachers, founded in 1986, grew out of education and business leaders' concern that a projected teacher shortage would leave America's classrooms without qualified teachers. The organization's primary objective has been to attract new candidates to teaching careers through public service advertisements portraying the profession as one of influence and power. With its slogan, "Reach for the Power: Teach," and its use of celebrity spokespeople (Edward James Olmos and Phylicia Rashad), Recruiting New Teachers is also an attitude campaign intended to influence public opinion regarding the value of teaching as a profession.

Since public service advertisments began in April 1988, Recruiting New Teachers has received over 570,000 calls to its toll-free number. Each caller receives an informational brochure containing a questionnaire. Twenty-eight percent of the more than 170,000 returned response cards came from the minority communities; currently only 10 percent of all teachers are minorities. Eighty-five percent of the respondents are age twenty-three and over, and 61 percent indicate that they have a bachelor's degree or better. Forty percent have made significant progress towards a teaching career since they first responded to RNT's message by entering or applying to a teacher training program, or by becoming hired (or waiting to be hired) as a certified teacher.

Recruiting New Teachers has developed a nationwide network of more than 1,100 "recruitment partners" — colleges and universities, state departments of education, governors, educational associations, and school districts seeking potential teachers — who provide respondents with information on jobs, teacher education, financial aid, and training.

RNT has received over $160 million in donated advertising and plans to expand its recruitment and image enhancement programs with a major new ad campaign, a series of poster mailings to high schools and middle schools, substantial expansion of the group's recruitment partner network, technical assistance to individual colleges and districts, and a national conference on teacher recruitment.

Major funding for Recruiting New Teachers has been provided by corporations and foundations, including ARCO Foundation, BellSouth Foundation, Citicorp/Citibank, DeWitt Wallace-Reader's Digest Fund, Ford Foundation, Lilly Endowment, Pew Charitable Trusts, Rockefeller Brothers Fund, Time Warner Inc., Ameritech Foundation, Christian A. Johnson Endeavor Fund, and others.

Teach For America

For further information, write:

Wendy S. Kopp
President
Teach For America
P.O. Box 5114
New York, NY 10185

Concerned about reports that the poorest schools lacked qualified teachers, Princeton senior Wendy Kopp created a national teacher corps to recruit liberal arts graduates from the nation's top colleges and universities to teach in urban and rural schools for a minimum of two years. After two years, Teach For America (TFA) has trained over 1,000 teachers and placed them in city classrooms in Los Angeles, New York, New Orleans, Baton Rouge, Oakland, Houston, and in rural schools in Arkansas, Georgia, Louisiana, North Carolina, and the Texas Rio Grande Valley.

After selecting corps members through an intensive application process, TFA initiates them into teaching with an eight-week intensive pre-service institute the summer prior to their placement. During the first six weeks, corps members student teach each morning in Los Angeles public schools. Experienced teachers from their placement sites provide them with a theoretical background and practical teaching techniques in afternoon classes. Corps members learn about their students and the communities in which they will be teaching, about how to cultivate higher order and critical thinking skills, and about how to use reading and writing throughout the curriculum.

Local Teach For America staff provide orientation for incoming corps members, assist them with their housing searches, build comraderie through local newsletters and social events, establish resource centers, and serve as direct resources during office hours and classroom visits. Through their relationships with principals and mentor teachers, local staff also work to ensure that corps members are teaching in supportive situations and that each corps member is assigned a mentor teacher from within the school. Additionally, throughout the academic year, institute faculty facilitate resource groups, which are designed to provide ongoing training and social interaction. Teachers' unions, universities, and local and national educational organizations conduct workshops to address specific classroom issues. Finally, a computer network enables corps members to communicate with each other nationwide, to share ideas and resources, and to collaborate on national projects.

For many new teachers, this support was not enough to help them through the troubling first year in the classroom, and they felt particularly unprepared for maintaining classroom discipline and maneuvering school and district bureaucracies. But the successes of Teach For America have been remarkable. Only fifty-five of the original 495 Teach For America corps members resigned from teaching after the first year. This attrition rate of 11 percent is far lower than the 25 to 50 percent turnover rates in the school districts where most of the corps teachers were placed.

The Teach For America program does not enjoy uncritical support from educators and policymakers. Many are concerned that students in inner city and rural schools, who need experienced teachers of the highest quality, will, instead, be taught by brand-new college graduates with a minimum of training in pedagogy and child development. They charge that a six-week program of lectures, seminars, and practice teaching — even combined with enthusiasm and eagerness — is not adequate preparation for daily classroom interactions with students. Teach For America, however, believes teachers learn through experience and ongoing professional development and that a pre-service program, combined with an extensive program of support, will create an effective model for teacher education.

Teach For America aims to build a corps of education advocates who will work throughout their lives from within the system and from outside. It also aims to elevate the public image of teaching and to effect systemwide changes in the way teachers are recruited, selected, certified, trained, and supported.

An initial $26,000 grant from the Mobil Foundation and donated office space from Union Carbide Corporation provided the necessary support that enabled

Teach For America to get started. Funding for Teach For America got an early boost in 1990 when businessman H. Ross Perot agreed to make a donation of $500,000 if the organization could raise the additional $1,500,000 it needed in its first year. A three-year, $3 million "challenge" grant from Philip Morris Companies will help TFA expand recruitment and training programs. The now $5 million-a-year enterprise is funded through grants from a number of corporations and foundations, including Mobil Foundation, Morgan Stanley & Company, Starr Foundation, Lilly Endowment, Carnegie Corporation of New York, Merck Company Foundation, Union Carbide Corporation, Chrysler Corporation Fund, Ciba-Geigy Corporation, E.I. du Pont de Nemours & Co., The Equitable Financial Companies, International Business Machines Corporation, Allied-Signal Inc., PPG Industries, Inc., Rockwell International Corporation, Coca-Cola Foundation, Hewlett-Packard Company, BellSouth Foundation, McGraw-Hill Foundation, Prudential Foundation, Polaroid Foundation, Xerox Corporation, and over sixty other corporations and foundations.

Northern Iowa's Minorities in Teaching Program

For further information, write:

Janet McClain
Director, Minorities in
Teaching Program
College of Education
University of Northern Iowa
Cedar Falls, IA 50614

Also:
Jane Prancan
Executive Director
US WEST Foundation
7800 E. Orchard Road,
Suite 300
Englewood, CO 80111

With a $170,500 grant, US WEST Foundation helped launch the Minorities in Teaching Program (MIT) at the University of Northern Iowa. The program was created because the university, which graduates the largest number of teachers in the state, has graduated fewer than thirty minority teachers in the past four years. By linking the university with five Iowa school districts with substantial numbers of African American, Hispanic American, Asian American/Pacific Island, and Native American students, the MIT program seeks those with an interest in and disposition towards teaching to participate in activities that promote academic and social development and career awareness.

The three major components of the Minorities in Teaching Program are the Summer Enrichment Program to encourage junior and senior high school students to consider a career in teaching, a scholarship/assistantship program to support minority students enrolled in teacher education at the university, and cohort groups of students in grades six through twelve who are involved in activities that prepare them for entrance to the university and its teacher education program.

Through the Summer Enrichment Program over forty eighth and tenth grade students stayed on the University of Northern Iowa campus for a week of academic enrichment and related activities to explore teaching careers. In addition to attending classes in computer literacy and language arts, each student prepared a brief lesson to teach, with supervision, to classes at the university's Malcolm Price Laboratory School. University of Northern Iowa teacher education students are interviewed by the precollege students about college life, their own interest in teaching, and the kinds of high school courses they needed to prepare for college and a teaching career.

With continued support over the next five years, the university hopes to have 200 minority students in its teacher education program, with fifty graduating each year into teaching careers. The University of Northern Iowa has pledged four-year scholarship support for each student, based upon satisfactory academic performance. After graduation, students will receive assistance from the university in obtaining teaching positions in Iowa. In addition, the university hosts a "Beginning Teachers" conference each year to support recent graduates and help them meet the challenges of the classroom. A three-year follow-up will track the students' progress and continue to encourage their professional growth.

Teacher Education Reform

The Agenda for Teacher Education in a Democracy

John I. Goodlad's major new book, *Teachers for Our Nation's Schools* (1990), established the context for the complete redesign and restructuring of teacher education programs and practices across the United States. Based on a five-year national study of teacher education supported by Exxon Education Foundation ($1.125 million over five years), Goodlad identifies structural weaknesses that impair many teacher education programs, describes essential elements for effective programs, and provides a blueprint for the simultaneous renewal of schools and the education of educators. His devastating portrayal of the way colleges and universities prepare teachers and his recommendations for change have been the impetus for reexamining and changing both the education that future teachers receive — from coursework to pedagogical training to clinical practice — and the environment in which these future teachers are taught.

The Education Commission of the States (ECS) has joined with the American Association of Colleges for Teacher Education (AACTE) and the Center for Educational Renewal (CER) at the University of Washington in a long-term effort, The Agenda for Teacher Education in a Democracy, to improve the preparation of teachers and to link teacher education more closely with efforts to restructure public schools. The goal of The Agenda is to secure better schools and better teachers by implementing Goodlad's recommendations for major reforms in teacher education.

Funding from Southwestern Bell Foundation ($600,000 for four years) has enabled The Agenda to develop a national teacher-education reform strategy.

- In 1990 The Agenda published four policy guides targeted for business, institutional leaders, state policymakers, and school districts, which provide suggestions for devising a specific plan of action to implement the recommendations.
- In 1990 ECS awarded grants of $5,000 to support dialogues in twenty-five states to address issues of teacher education with a sharp focus on the findings and recommendations of Goodlad's study.
- In 1991 CER completed a national competition to select eight institutional sites (in California, Massachusetts, New Jersey, Ohio, South Carolina, Texas, Washington, and Wyoming) to implement the recommendations for renewal described by Goodlad and to serve as national models for other colleges and universities. ECS is working with state education leaders in the eight states, distributing Southwestern Bell grants of $25,000 seed money to help them develop the process for reform. CER will add additional sites during the five-year project to renew teacher education.
- AACTE will use its network of public and private colleges and universities to disseminate information to encourage reform efforts.
- ECS, working with AACTE and CER, will develop a national network to improve teacher education through state-based coalitions for reform.

In addition to its involvement in The Agenda for Teacher Education in a Democracy, ECS plans to work with interested states and those involved in teacher education reform efforts to define an array of standards based on outcomes directly linked to the kind of teachers needed for restructured schools and to work with interested states in implementing these standards.

For further information regarding The Agenda, write:

Joni Finney
Director of Policy Studies
Education Commission
of the States
707 17th Street, Suite 2700
Denver, CO 80202-3427

Also:
David Imig
Executive Director
American Association
of Colleges for Teacher
Education
One Dupont Circle, NW,
Suite 610
Washington, DC 20036-2412

The Center and the Pilot Sites. The Center for Educational Renewal and the initial eight pilot sites are focused on redesigning teacher education around nineteen conditions calling for unique school/university collaborations. Initial grants from Exxon Education Foundation (five years) and Joyce-Mertz Gilmore Foundation (four years) and annual grants from Southwestern Bell Foundation enable CER to employ a cadre of consultants to ensure technical support to the sites. Increasingly, talented individuals in the present sites will assist sites to be selected in the future. New sites will be added at a rate commensurate with the availability of human and financial resources.

For further information regarding the Center and sites, write:

John I. Goodlad
Director
or
Roger Soder
Associate Director
Center for Educational
Renewal
College of Education, DQ-12
University of Washington
Seattle, WA 98195

The AT&T Teachers for Tomorrow Program

For further information, write:

David Imig
Executive Director
American Association of
Colleges for Teacher
Education
One Dupont Circle, NW,
Suite 610
Washington, DC 20036-2412
Also:
Secretary, Education
Programs
AT&T Foundation
550 Madison Avenue
New York, NY 10022

The AT&T Teachers for Tomorrow Program represents a new direction for AT&T Foundation, reflecting AT&T's concern about the critical issue of how well teachers are prepared for their careers, particularly for teaching in urban schools. Underlying the Teachers for Tomorrow Program is the recognition that, in order to restructure schools and improve student learning, there must be a corps of capable, effective teachers who are well-schooled in their disciplines, skilled in pedagogy, and capable of teaching youngsters from diverse backgrounds.

Today, higher education has the primary responsibility of improving the character of teacher education. In view of this, the AT&T Foundation was informed in its thinking by John Goodlad's analysis of current teacher education programs, *Teachers for Our Nation's Schools* (1990), which makes specific recommendations for teacher education reform, including the importance of strengthening school/university collaboration and of redesigning reward structures to attract and keep talented teachers and teacher educators. Goodlad joins many others, including the Holmes Group, in noting the importance of high-quality clinical preparation to bridge the gap between university preparation and school practice.

Because of the critical need to restructure teacher education, as laid out by Goodlad and others, AT&T Foundation, working closely with the American Association of Colleges of Teacher Education, launched its Teachers for Tomorrow Program in November 1991 and focused their joint efforts on achieving three goals:

1. To fundamentally change programs of teacher preparation in selected urban centers in order to achieve long term improvement in student achievement.
2. To measurably increase the pool of teachers effectively prepared for service in urban schools by improving the clinical phase of training.
3. To reduce the attrition rate of new teachers in their first five years of teaching.

The AT&T Teachers for Tomorrow Program — designed to foster serious and long-term strategic collaboration among urban school systems, local universities, and teacher bargaining representatives — currently focuses on improving the clinical aspects of teacher preparation programs in urban sites and supporting changes that will become standard features of the teacher training program at each site. For example, the teacher interns will spend significantly more time in clinical school settings (in two or three schools near the university) and work closely with practicing teachers. Prior to the 1991 round of grants, AT&T helped establish the DePaul University Center for Urban Education in Chicago (see description p. 79).

The initial three-year funding for AT&T Teachers for Tomorrow is targeted toward up to six communities where AT&T has a significant presence. The first three are New York City — linking the New York City public schools with the City University of New York and the United Federation of Teachers; San Francisco — linking the San Francisco Unified School District with San Francisco State University and United Educators; and Jacksonville, Florida, linking Duval County public schools and Clay County public schools with the University of North Florida, Clay County Education Association, and Duval Teachers United. The Council of Great City Schools and the Education Commission of the States are cooperating agencies in the project and will help disseminate results and examine policy and regulatory changes at the state and local levels that will facilitate successful reform of teacher education.

Restructuring University of Tennessee's College of Education

For further information, write:

Richard Wisniewski
Dean, College of Education
The University of Tennessee
Knoxville, TN 37996

Also:
Anne T. Dowling
Director of Corporate
Contributions
Philip Morris Companies Inc.
120 Park Avenue
New York, NY 10017

A $500,000/three-year grant from the Philip Morris Companies to the University of Tennessee - Knoxville will support a complete restructuring of its college of education, creating a national model for training teachers and school administrators. In its reform, the university will examine the current assumptions, programs, structures, and practices of the college of education, seeking to create a new College of Education whose prime focus is the preparation of professionals for schools. Other departments and services — including development, research, and assessment functions — will also be reviewed as the college redefines its missions, organization, and programs.

The restructuring process will span three years. During the first year, university faculty and students will work with teachers, consultants, and reform leaders to assess the current status of colleges of education and draft models of what new colleges can and should be like. These models will be further examined and discussed at national conferences with education and policy leaders, with a goal of developing ideas and models relevant to the University of Tennessee. The second year will be devoted to intensive planning and consensus building, leading to a blueprint for the transition to a new College of Education. In year three, devoted to final planning and the approval process, the college will begin implementing the restructuring process.

The College of Education seeks three outcomes from its reform effort:

1. To create a blueprint for a new College of Education, including a new configuration of faculty, staff, curricula, programs, and students; new relationships with the field; a new organizational and administrative structure — all focused on the changing educational needs.
2. To provide a transition model for colleges moving from traditional programs to restructured programs. For several years, the College of Education will operate parallel colleges; each resource, staff, and program decision, based on strategic planning, will advance the transition from the "old" to the "new" college.
3. To operate a Center for Restructuring Education that will demonstrate fresh approaches to staffing, programs, outreach, and research vital to a new vision of a college of education. The center will house an interdisciplinary faculty committed to studying and implementing new approaches to preparing educators, will forge close links to Tennessee schools and districts, and will work with schools throughout the nation that are engaged in restructuring efforts.

Chancellor John Quinn noted, "Universities that teach the teachers must change if we are to have the reform in public schools that parents, educators, and industry are demanding." And when the College of Education at UT-Knoxville embarked on its reforms in the fall of 1991, it did so with the recognition that a total recreation of the college is necessary to prepare the educational personnel needed to change the nation's schools.

The American Federation of Teachers' Pilot Professional Practice Schools

For further information, write:

Marsha Levine
Associate Director,
Education Issues
American Federation of
Teachers
555 New Jersey Avenue, NW
Washington, DC 20001

The American Federation of Teachers (AFT), with support from Exxon Education Foundation ($640,000 over three-and-a-half years), is developing three pilot professional practice schools to provide clinical education for new teachers. Professional practice schools, hybrid institutions with university and school faculty, combine theoretical and academic expertise with practitioner knowledge. After completing a liberal arts program and professional education requirements, future teachers will enroll at a professional practice school to serve a one-year internship. Based on the principle that professional practice in teaching is knowledge-based, reflective, and inquiring, the schools offer future teachers a number of essential experiences to influence the quality of their teaching: case study methodology for practice in analyzing problems; study groups to focus on particular content areas and instructional issues of relevance to teaching that subject; research and evaluation committees; learning to work with peers; and practice teaching.

AFT's professional practice schools, like those being developed at other sites, are designed to give future teachers experience in a variety of different teaching strategies including team teaching, coaching, framing problems, facilitating discussions, as well as traditional lecturing. The faculty seeks to illustrate those approaches to teaching that reflect the best research in teaching processes. In addition, professional practice schools will be model restructured schools, providing future teachers with the opportunity to learn new roles in school-based decision-making, including how to collaboratively evaluate and review practice in their schools; focus on individual and collective needs of students; work with university faculty in teaching, conducting research, supervising and assessing interns; make schoolwide decisions on grading policies, student and teacher assignments, organization of instruction, curriculum design, resource allocation, and scheduling.

The Exxon grant supported two years of research, concept-building, and design work accomplished by AFT staff with a national task force of educators, researchers, policy analysts, and teacher leaders, who developed a set of questions and objectives with respect to the nature and purpose of the professional practice schools. Guidelines for developing the three pilot schools were defined through task force commissioned papers and the project's mission statement. Among the recommendations of the task force are the following:

- Professional practice schools must be committed to the principle that learning is an active process for students and teachers. They must provide quality education for children through interactive learning, inquiry-driven instruction, and increased parental involvement.
- Professional practice schools must provide professional clinical education for teachers by examining school-based practices through continuous inquiry on ways to improve teaching.
- Professional practice schools must change the norms of colleagueship by developing new concepts of teacher leadership in curriculum and instruction, providing teachers with the opportunity and time for disciplined inquiry, developing the idea of teaching as research, and recognizing the need for networks and coalitions to link like-minded teachers, schools, and districts to one another for education and support.
- Successful training in a professional practice school must become a prerequisite for teacher certification.

Three pilot sites (in Los Angeles, Minneapolis, and Rochester) have been awarded planning and preparation grants for 1990–91; when their implementation plans (submitted in spring 1991) are accepted, the sites will receive grants of $80,000 over two years to begin developing their professional practice schools. There are several implementation issues each site must address, including the problems that arise from collaboration between university and district faculty. They will also need to redefine roles and responsibilities, and develop policies and programs that support school-based change as well as change in teacher education.

Professional practice schools, through self-conscious and continuous examination of teaching practices, can generate the knowledge base needed to undergird restructuring efforts and to serve as models of transformed school environments.

National Board for Professional Teaching Standards

For further information, write:

James A. Kelly
President
or
Gerlinda S. Melchiori
Director of Development
National Board for
Professional Teaching
Standards
300 River Place, Suite 3600
Detroit, MI 48207

The National Board for Professional Teaching Standards (NBPTS), an organization of educators, business leaders, and policymakers, was created in 1987 to establish high and rigorous standards for what teachers should know and be able to do, to certify teachers who meet those standards, and to advance related education reforms. The purpose of all three programmatic areas is to improve student learning through a nationwide system of advanced, voluntary certification for America's 2.6 million elementary and secondary school teachers.

Standards. The characteristics of accomplished teaching are described in the policy statement, "What Teachers Should Know and Be Able to Do" (3rd edition, 1991). In 1990 the National Board began the process of translating these generic characteristics into specific standards within six student development levels — Early Childhood (ages three to eight), Middle Childhood (ages seven to twelve), Early and Middle Childhood (ages three to twelve), Early Adolescence (ages eleven to fifteen), Adolescence and Early Adulthood (ages fourteen to eighteen and older), and Early Adolescence through Young Adulthood (ages eleven to eighteen and older). Teachers who work across the curriculum may choose either a subject-specific certificate or a generalist certificate (for example, Early Adolescence/Science or Early Adolescence/Generalist). National Board Certification will be a way to recognize accomplished teaching practice. The first candidates for National Board Certification are expected to be assessed in 1993–94.

Assessments. Applicants for National Board Certification will be expected to demonstrate principled, professional judgment in a variety of situations. Because evaluating such complex behavior will require innovative approaches, the National Board is seeking to identify valid and reliable performance-based assessments (such as portfolios, interviews, written examinations, videotape simulations, classroom observation) and to find which of these, and in what combination, can accurately and efficiently be used to measure excellent teaching. The National Board is contracting with our nation's leading universities and researchers to develop assessment packages for each National Board Certification field.

Reforms. Complementing its core functions regarding certification and assessment, the National Board will act on three reform issues related to the improvement of teaching and student learning: (1) creating a more effective environment for teaching and learning in schools; (2) increasing the supply of high-quality teachers into the profession (with an emphasis on minorities); and (3) improving teacher education and continuing professional development.

Teachers certified by the National Board will have demonstrated that they are committed to students and their learning, know the subjects they teach and how to teach them to students, are responsible for managing and monitoring student learning, think systematically about their practice and learn from experience, and are members of learning communities.

Carnegie Corporation of New York launched the National Board with a $5 million/five-year commitment. Program and general support has come from a number of other corporations and foundations, including ARA Services, Inc., AT&T, Charlson Research Foundation, Chrysler Corporation, E.I. du Pont de Nemours and Company, Inc., Ford Foundation, Ford Motor Company, General Electric, The Getty Center for Education in the Arts, IBM Corporation, Johnson & Johnson, Lilly Endowment, Inc., New York Times Company Foundation, Pew Charitable Trusts, RJR Nabisco, Union Carbide, Sears, Roebuck and Company, and Xerox Corporation. A $3 million grant from DeWitt Wallace-Reader's Digest Fund supports outreach efforts through state forums and communication programs, studies to identify ways to present National Board Certification to practicing teachers, and NBPTS exhibits at education conferences.

Together with a FY91 federal "matching" research and development appropriation, more than $23 million has been committed through October 1991 toward the National Board's $50 million fund-raising goal.

Institute for Research on Learning

For further information, write:

Peter Henschel
Executive Director
Institute for Research
on Learning
2550 Hanover Street
Palo Alto, CA 94304

The Institute for Research on Learning (IRL) was founded in 1986 with a $5 million/five-year grant from Xerox Corporation. Its mission is twofold: to examine and understand how successful learning takes place in the schools, in the workplace, and in everyday life and to improve learning through the practical application of research findings. The Institute's research team is made up of more than forty senior, associate, and affiliated researchers representing the fields of anthropology, education, linguistics, psychology, and computer science.

IRL research is conducted with the assumption that people are naturally resourceful, collaborative learners who create knowledge as part of their continuous social interaction. In a variety of projects, staff work to understand the patterns of social and mental activity that shape what people really learn and how they learn throughout their lives. From these conceptual premises, IRL designs resources, such as software and procedures, to facilitate successful learning.

IRL conducts collaborative projects with schools, universities, government agencies, and corporations to study learning as it takes place in real-life situations. For example, IRL researchers, scientists from Sandia National Laboratories, and Stanford University faculty and staff have been working on the "Middle-School Mathematics through Applications Project" since 1990 to design, develop, and test materials and activities based on everyday science and engineering problems. The materials will help students realize the utility of mathematics for solving real problems in their lives. New assessment practices will be developed to accommodate these new activities. The "Representational Practices in Learning, Teaching, and Assessing Mathematics" project, focusing on the transition between middle and high school mathematics, will study how people with different mathematical experiences engage in the moment-to-moment work of constructing representations during problem solving and explain how they move towards competent representational practice both in school mathematics and in later work settings. The project will work with practicing teachers and engineers to design curriculum materials; with the Stanford Teacher Education Program to support teacher training practices for future mathematics teachers; and with teachers and administrative staff at participating middle schools to design new assessment strategies.

These research projects are supported by and conducted with Apple Computer, Inc., Carnegie Corporation of New York, Digital Equipment Corporation, James S. McDonnell Foundation, National Science Foundation, Philips Telecommunications and Data Systems, Sun Microsystems, and Xerox Corporation.

Professional Development of Teachers

The National Faculty

For further information, write:

Benjamin Ladner
President
National Faculty
of Humanities, Arts and Sciences
1676 Clifton Road
Atlanta, GA 30322

The National Faculty of Humanities, Arts and Sciences was created in 1968 to help improve the quality of teaching in the nation's elementary and secondary schools. For over twenty years, the National Faculty has provided academic resources and expertise to teachers in every discipline, in different school settings, and with a wide range of students. The National Faculty offers no predetermined agenda or set of solutions to problems in the schools; instead, it promotes local ownership of every project. Through their partnership with the National Faculty, teachers work with college faculty consultants to identify the needs to be addressed in their school, to propose solutions, to work cooperatively to implement the solutions, and to keep up with current developments in their fields. National Faculty programs are designed to bring about comprehensive and lasting educational change in the school districts in which they operate.

With start-up funds from Andrew W. Mellon Foundation, the National Faculty launched two major projects which illustrate the breadth of National Faculty teacher-directed initiatives: the Urban Schools Program (in Tucson, El Paso, Boston, and Pittsburgh) and the Northwest Region Center (Washington, Oregon, Idaho, Hawaii, and Alaska).

Urban Schools Program. The El Paso Independent School District began a three-year program with the National Faculty to address the problem of how to improve the academic performance of the district's disadvantaged and minority students through integrating the teaching of literature and history. National Faculty scholars from Yale, Duke, the University of Pennsylvania, Emory, Dartmouth, and the University of Texas, among other universities, worked with over sixty El Paso English and social studies teachers on a variety of subject areas in world history and literature. Concentrating on issues pertaining to Southwestern culture — including borders; Latin American and Mexican literature, art, and history; and the region's rapidly changing demographics — National Faculty project team teachers developed a new humanities curriculum that teaches world history in conjunction with world literature in the same grade. As a result of the program, American history and literature were similarly restructured. The success of the new humanities curriculum, which has been implemented districtwide, prompted El Paso administrators to invite the National Faculty back to address the problems of teaching mathematics in an ethnically diverse school district.

Northwest Regional Center. The National Faculty's Northwest office opened at Evergreen State College in 1986 to develop and operate programs for teachers in the region. Through National Faculty Summer Institutes, English teachers participated in intensive literature and writing workshops with faculty from national and area universities, and science and mathematics teachers visited and studied the Mt. St. Helens volcanic site with a geologist, botanist, and biologist. Two institutes focused on cultural diversity issues, introducing teachers to the cultures and languages of China, Japan, Spain, Finland, France, Hawaii, and Russia. In addition to professional development programs, the Northwest National Faculty is working with the Schools for the 21st Century reform program in Washington.

Funding for the National Faculty and its projects comes from government, corporate, and private sources including the ARCO Foundation, Exxon Education Foundation, General Electric Foundation, Xerox Foundation, National Endowment for the Humanities, Rockefeller Brothers Fund, Rockefeller Foundation, New York Times Company Foundation, and Apple Computer, Inc.

Metropolitan Life Foundation's Support of Teachers

For further information, write:

Sibyl Jacobson
President and CEO
Metropolitan Life
Foundation
One Madison Avenue,
Area 12H
New York, NY 10010

Metropolitan Life Insurance Company and Metropolitan Life Foundation believe that attracting better teachers, keeping them in classrooms and schools, and increasing the level of respect for the teaching profession are essential for the improvement of the nation's public school system. MetLife's focus on activities that support current and future teachers was strengthened by its experience with the annual Metropolitan Life Survey of the American Teacher.

The Metropolitan Life Insurance Company commissioned Louis Harris and Associates in 1984 to poll teachers to determine their concerns and aspirations as educators. The subsequent series of surveys represents a sustained program of research that brings teachers' opinions to the attention of the American public and policymakers. The 1984 survey was the first comprehensive report on the attitudes of elementary and secondary schools teachers toward public education in the United States. Over the years, these reports have highlighted such topics as relationships among teachers and students; developments in the teaching profession; links between home and school; the views of former teachers; the distinctive circumstances of minority teachers; the changes teachers say would improve education and help them do their jobs better; and the experiences of new teachers.

In 1985 Metropolitan Life Foundation began funding projects that were consistent with the American teacher surveys' findings. The Metropolitan Life Foundation Future Teacher Scholarships were established to encourage outstanding college students to enter careers as elementary and secondary school teachers. To encourage classroom teachers and college faculty to develop and implement programs that will improve the quality of public education, Metropolitan Life Foundation created the College-School Partners Programs. Over $1.4 million has been awarded to twenty-four colleges and universities and their public school partners since 1986.

In addition to developing MetLife programs to support teachers, the Foundation has provided grants to other projects directed toward teacher recruitment, especially among underrepresented minority populations, teacher education reform, teacher support networks, and research in the study of the teaching profession.

IMPACT II: The Teachers Network

For further information, write:

Ellen Dempsey
Executive Director
IMPACT II
285 West Broadway
New York, NY 10013

IMPACT II began in 1979 as a pilot program funded by the Exxon Education Foundation in the New York City public schools. It was created as a teacher-to-teacher networking program to recognize and reward creative teachers, to disseminate information about successful classroom-based programs, to break down teacher isolation, and to support and encourage teachers in their continuing professional development. The program has expanded into a national network of teachers from thirty sites across the country.

IMPACT II is based on the philosophy that success starts in the classroom and that teachers working with teachers is a most effective method for improving instruction. Like many other programs, IMPACT II awards small grants to teachers, but it does so with two significant differences — there are two types of grant, and the grantees become members of an ongoing network of teachers. The first type of grant is given to the teacher-innovator to develop new classroom practices. The second grant, called "disseminator grants," are awarded for classroom-based programs that have already been successful vehicles for teaching students; these grants assist teachers in refining their programs and packaging them for other teachers to use. The programs are disseminated at workshops held after school or on weekends throughout the year. Teachers who attend workshops may then apply for "adaptor grants" if they are interested in implementing a program.

IMPACT II programs continue to develop through workshops, conferences on school reform issues, catalogs and newsletters, publications to help beginning teachers, and a major report on the teachers' vision for quality schools. Since 1987, the Metropolitan Life Foundation has supported many of these programs and materials produced by IMPACT II, including the video, "Where Have All the Teachers Gone?" which addresses reasons why teachers leave the profession; *The Teachers' Catalog of Creative Program Ideas* for teachers to implement in their own classrooms; *The New Teachers' Handbook*, offering practical advice and encouragement to first-year teachers; and *The Teachers' Vision of the Future of Education*, a report depicting an ideal education system.

Other corporate and private foundations have supported local IMPACT II networks and encouraged its development in school districts across the country. An Ameritech/Ohio Bell grant has helped to expand IMPACT II into seven city school districts in Ohio. The IMPACT II network in Dade County, Florida receives support from many sources, including Ryder System, Inc., Knight Foundation, Southwest Bank, N.A., Humana, and Southern Bell. The New York City IMPACT II program has built a consortium of corporate funders, which includes Chase Manhattan Bank, Chemical Bank, Citibank, Consolidated Edison, Morgan Guaranty Trust Company, New York Telephone, and the New York Times Company Foundation. Support for national IMPACT II programs comes from American Express Foundation, Boston Globe Foundation, NYNEX Foundation, Polaroid Education Foundation, and WWOR-TV.

> We are on the edge in this nation of abandoning our children. And that has frightening implications — not just for business and children but the future of our nation. There can be no greater need than seeing our children safely into a new century. It will not be simple. It will not be safe. And it will not be fostered within the narrow confines of self-interest. Yet it is within our reach.
>
> *Robert E. Allen, Chairman, AT&T*

Chapter 5

Changing the Relationship Between Schools and Community

Introduction

"All kids can learn" has become the catch-phrase of the governors, CEOs, and policy makers in the front line of the current education reform movement. By this statement, they seem to mean that every student must have equal access to a good education. The implications of basing actions on this motto, however, are rarely articulated and probably not fully understood. For example, if all children are to be given the same educational opportunities, then state-level financing of schools and districts must be made equitable; students should not be consigned to an inadequate, inferior education because they live in districts that cannot afford to maintain facilities, obtain needed equipment and supplies, and pay for qualified teachers.

The belief that "all kids can learn" also carries with it an expectation for universal student achievement; but, again, these expectations are not fully articulated. If, on the one hand, "world class achievement" is expected from all students, then our emphasis should be on high-end achievement in all classes and academic programs. If, however, attention is focused on students "at-risk" of failure, the emphasis should be on bringing all students up to basic, minimal standards. In either case, profound changes must be made in how classrooms and schools function to ensure that students receive whatever assistance and time they need to learn the material and be successful in every class.

Finally, the motto "all kids can learn" cannot be taken seriously without also considering the non-school resources available to children, those they bring with them to school. Certain family and community resources (human, social, material) are necessary to support educational success, yet many children today cannot depend upon nor draw from these resources. Only by acknowledging how wide the gap is between the level of resources children and schools need and the level of resources actually available to them, can companies, community organizations, foundations, and others begin to identify ways to close the gap.

As districts undertake school-based system change, they are experimenting with important ways to change the relationship between schools and communities by developing programs that address family issues and health care and by providing preschool and early learning opportunities for all children. For older students, schools are working with local businesses and community organizations to sponsor school-to-work projects and support academic and advisory programs to prepare students for college.

Overview of Program Descriptions

The example programs in this chapter are directed toward changing the relationship between schools and community in two ways: linking schools and families or care-givers by addressing family issues, health care, and preschool and early learning; and linking schools with the community by preparing students for their futures in the workforce and for continuing their education beyond secondary school. As is true throughout this book, the intention is to provide companies and organizations with an array of suggestions and ideas for both corporate-sponsored programs and funding opportunities.

Family Issues and Health Care

The first national education goal announced by President Bush and the governors may be the most ambitious of the six: "By the year 2000, all children in American will start school ready to learn." Reaching this goal will take a massive influx of government and private resources directed toward providing better health care and nutrition for mothers and infants and establishing a network of support services to help families maintain an adequate standard of living. More than 12 million American children now live in poverty; they do not have sufficient food, housing, medical attention, and freedom from harmful narcotics to enable them to learn academically and socially. The example programs in this chapter illustrate some of the ways corporations and private foundations are redefining their aid-to-education programs to include support for school-based social services and parent education in an effort to ensure that children receive routine health and social support.

Patricia Hoven, former executive director of the Honeywell Foundation, once described the changes in Honeywell's contribution program by saying, "It's babies in the building for us in the 1990s." The first program described here is New Vistas High School, located at Honeywell headquarters, where pregnant teenagers and teenage mothers receive a high school education while learning good parenting skills with their babies at the day care center. Prudential Foundation funds "Zero-to-Three," a parenting program for teenage mothers in Newark, New Jersey, and many other companies support the national Parents As Teachers program, often in their communities and sometimes within their companies.

Helping schools develop strong and meaningful links to parents and other adult care-givers is a central focus of the Family-School Collaboration Project and the Home and School Institute. James Comer's School Development Program, an expanding network of elementary schools across the country, helps create a better learning environment for children both at school and at home through close school-family connections.

A large-scale effort to link social services with schools was undertaken by the Annie E. Casey Foundation through its New Futures Initiative, which seeks to develop comprehensive strategies for addressing the complex network of problems facing at-risk youth. And the Great Potential Program is a communitywide program to address both educational and development needs of young people in Westchester County, New York.

Some companies focus directly on student health issues by supporting school-based health clinics in middle and high schools, while others create their own programs promoting excellence in school health education, like Metropolitan Life Insurance's Healthy Me initiative.

Preschool and Early Learning

Educational research reveals that children who enter elementary school after participating in preschool and early learning programs are significantly more successful throughout their educational careers. They have a foundation of social skills and basic information that serves them well in their school experiences. Therefore, in addition to addressing health, housing, and social issues, public and private agencies must be ready to support preschool and early education programs if they want to ensure that "all children in America will start school ready to learn."

As suggested earlier, this support sometimes means helping parents understand their responsibility as a child's first teacher, helping them recognize child development stages and cultivate their child's social skills, and providing preschool children with opportunities to learn basic concepts and skills. But it also can mean training preschool teachers and directors, supplying materials and resources for preschool centers, and reinforcing preschool teachers by volunteering to read to children and help them with their work.

Several of the projects included in the first section on "Family Issues and Health Care" also include preschool and early learning components. The US WEST Foundation, in addition to supporting Parents As First Teachers, has developed a major grant program focused on early childhood development and parent education. Some companies are leveraging their support of preschool education by working with the national Head Start program to increase its effectiveness. Texas Instruments, for example, has created a full-day model Head Start in Dallas, Texas, and Johnson & Johnson sponsors a management training program for Head Start directors. Two examples of successful preschool programs can be found in the description of the Center for Successful Child Development, or "Beethoven Project," in Chicago, and the Hartford, Connecticut, Early Learning Partnership.

School-to-Work

A natural focus for many businesses in their support of education is the category of school-to-work or vocational education programs. Just as schools and districts are attempting to develop links with the community for young children through preschool programs, they are also working closely with business and community leaders to provide additional opportunities for older students to apply classroom experiences in work settings. School-to-work programs seek to develop open communication between schools and employers so that students develop the necessary skills, abilities, work habits, and attitudes to be successful in the work place. Through such programs, schools and communities address one of the national education goals: "By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship."

The variety of ways companies help students make the school-to-work transition are evident in the example programs described in this chapter. Many companies provide financial support, mentorships, or internships for national programs like Career Beginnings, the National Academy Foundation, and INROADS. They may develop courses and job training in partnership with schools like the New Horizons Technical Center and the Philadelphia High School Academies. Entergy Corporation developed a special institute to help school counselors better understand the world of work, and Security Pacific Corporation provides job training at the company for hundreds of Los Angeles students. Aetna created its "Stepping Up" program to encourage companywide participation in local school vocational programs; Chrysler focused its World of Work program on elementary school children; and the Marriott and Mitsubishi foundations support workplace opportunities for students with disabilities. Finally, the National Foundation for Teaching Entrepreneurship teaches disadvantaged youth business fundamentals and helps them create and run their first companies.

College Preparation

Through college preparation programs, schools make sure that students receive good advice and guidance when it comes to making academic choices that will influence their future educational options. Many of the programs included in earlier sections of *Business and the Schools* are, in effect, directed toward broadening student options for higher education. In this section are examples of corporate-sponsored initiatives specifically designed to increase the number of students attending college and to support them while they take the courseloads necessary to prepare for college.

Fannie Mae's Futures 500 Club, an incentive scholarship program, has already helped many students in one Washington, D.C. high school, and through its College Bound program, General Electric plans to double the number of college-bound students from several high schools across the country. Students who, with the support of Career Beginning mentors, enroll in college now find a support network through Higher Ground, a national program with backing from companies and private foundation. AT&T Foundation provided early funding for Arizona State University's unique program to encourage young Hispanic women to consider college as an option for the future.

Many companies and communities have special scholarship programs to encourage young people to attend institutions of higher learning. Tenneco Inc. established a blanket scholarship program for each ninth grader in its partner high school, while the Cleveland Scholarship Program places college admission and financial aid advisors in every Cleveland high school to make sure that every student accepted into college has the means to attend.

Finally, there are a number of programs attempting to provide inner-city young people with the opportunity to attend those college preparatory schools that could lead to enrollment in exclusive universities. New York's Prep for Prep and Boston's A Better Chance both receive substantial financial support from corporations and private foundations.

Observations

The initiatives included in this chapter — some intended to prepare young children for school; others to provide older students with workplace or college applications for their schooling — reflect often-unstated assumptions as to the purpose of K–12 education. Among the common expectations of what schools are expected to do for students are the following:

- Prepare students for future employment
- Prepare students for life in a democracy
- Provide students with access to broad areas of knowledge
- Provide students with a variety of options for their futures
- Help students lead a better life than their parents

The table opposite illustrates the relationship between these expectations and the types of programming companies might undertake to help schools provide students with the skills and knowledge they need for future success.

Several general observations can be made about the nature of corporate-supported programs directed toward changing the relationship between schools and community:

1. *The programs focus on the external context of education.* Not surprisingly, most of these programs place their emphasis on the family, neighborhood, or community rather than on the school. The programs are often directed at those students least likely to succeed academically; to support young children, a company may help schools provide a support network of advice and resources to families, and for older students, it may offer illustrations of why schooling is important.

	Family & Health Care	Preschool & Early Learning	School-to-work	College Preparatory
Prepare students for future employment			■	■
Prepare students for life in a democracy			■	■
Provide students access to broad areas of knowledge		■	■	■
Provide students a variety of options for the future		■	■	■
Help students lead a better life than their parents	■	■	■	■

2. *Activities are future-directed,* seeking to provide children and students with skills and opportunities for better futures. A tantalizing assumption of all of these programs — from parenting workshops and preschools to projects focused on workforce and higher education issues — is that a good education is the key to material and personal benefits that will exceed, for most of these students, those of their parents.
3. *The personal involvement of adults outside the schools is critical* to student success. In many cases, the adult involvement is that of parents and family members who are invited to participate in school management, planning, and social activities. Many educators believe that parental involvement strongly influences the academic success of their children. As children grow older, other adults acquire significance in their lives and many of the school-to-work and college preparation programs include a strong volunteer and/or mentor component that brings successful business leaders together with students.

Future Directions

The critical importance of attending to family issues and health care for children in this country is evident. Certainly, we cannot hold all children to high academic expectations without concurrently providing them with the security (financial, health, adult support) necessary for high achievement. Right now, the country seems to expect public schools to assume many traditionally "familial" responsibilities; but teachers are untrained and schools are ill-equipped to accept the challenge of feeding, nurturing, and providing health care to the children they are also expected to educate. The country at large must develop a long-term, well-financed response to the crisis of children in need. The examples in this chapter provide evidence of great concern and effort in this area; companies and private foundations have clearly begun to focus more of their attention and resources on family, health care, and social issues. But the political agenda must be in place to leverage the few private dollars available to tackle this enormous problem.

When considering programs that address changes in the relationship between schools and community, the obvious question is whether any connection can be made between these programs and school restructuring experiments. If the primary focus of corporate and private funders is to achieve school-based system change, then where do programs directed toward preschool education, child health care, parenting, vocational training, and college preparation fit in?

The key is to link these projects to the four basic outcomes sought by restructuring experiments:

1. *To increase student learning.* Through parenting workshops, young parents can learn how to encourage their children to acquire skills needed in restructured classrooms: inquiry, analysis, decision-making, cooperative learning, and so forth. In experimental ungraded kindergarten and primary school classes (grades one through three), many young children have the experience of learning well and succeeding at their work before moving into more formal schooling. And, in middle and high school, school-to-work and college preparation experiences give students an opportunity to practice their critical thinking skills by applying classroom knowledge to practical decisions.
2. *To extend the capacity of teachers.* States and institutions of higher education are beginning to rethink the way daycare professionals, preschool teachers, and teachers for the early grades are prepared for their important work. If children's educational paths are in some ways established by their earliest contacts with schools and classrooms, then certainly the training (and remuneration) of these teachers must be of major concern. Teachers involved in school-to-work and vocational programs often receive additional support from local companies through internships (to observe first-hand practical applications of training programs) and opportunities to work side-by-side with technicians and engineers. There does not seem to be much effort, however, to provide these teachers with workshops and seminars on how to teach students advanced technical skills or how to encourage students to adapt their knowledge to a number of different applications.
3. *To create systems that encourage innovation.* While efforts are being made in several school districts to create ungraded educational experiences for preschool and early primary school students, the kind of school-based system change being experimented with through shared decision-making, school-based management teams to set goals and develop implementation strategies, team teaching, and other aspects of restructuring are not part of the descriptions of these programs designed to change school-community relationships. On the other hand, by their nature, these programs do bring families and community leaders into closer contact with teachers and school administrators.
4. *To develop effective assessment strategies* that reveal whether students are learning more and better and whether teachers are teaching more effectively. Performance-based assessment strategies will be important measurements of how well preschool students are prepared for school, how well school-to-work students are prepared for their future jobs, and how well college prep students are prepared for college. Right now, assessment in these settings is not performance-based and does not, therefore, reflect the kind of learning expected through these programs.

Assessment also becomes an issue on the programmatic level. How can the ultimate success of a preschool or teen parenting program be measured unless students are tracked through twelve or more years? Most school districts (and governments and private funders) do not have the resources to sustain this kind of longitudinal assessment. How well do students perform on the job after participating in a vocational training or school-to-work program? It is difficult to decide who will measure job effectiveness, when assessment is done, and on what basis credit can be assigned to a program.

Family Issues and Health Care

New Vistas High School

Instead of trying to take care of her baby, get ready for school, drop the infant off at daycare, and make it to school by 7:20 A.M., a young mother attending New Vistas High School has a schedule that begins at 9:30 at Honeywell's corporate headquarters, where the daycare center is right next door to her high school classroom.

New Vistas School, which opened in 1990, is an alternative program within the Minneapolis public school system. The school provides pregnant teens and teen mothers with a solid academic education leading to a high school diploma, while their babies and young children get important early health and developmental care. The school offers individualized instruction for the teens. Students spend one-third of their classroom time using computer-assisted instruction, and their progress is monitored by the same computers, helping them stay on track. Courses in prenatal and baby care, parenting, health, and nutrition are part of the curriculum, as students learn to handle both academic and family responsibilities. New Vistas is designed to help teen mothers, usually at risk of school failure, to succeed. And through its daycare center it helps ensure the healthy development and eventual school-readiness of very young children.

Young mothers are encouraged to remain in the program after the birth of their children. In addition to individualized instruction and course work, the students participate in one-on-one mentoring and vocational education with Honeywell employee volunteers who help them plan their education and careers after high school graduation.

New Vistas embodies Honeywell's belief that early childhood development is a community concern. Honeywell provides the facility (estimated cost of renovation: $250,000), funds for equipment purchases and start-up, assistance with special projects, supplemental food, a staff liaison, and employee/retiree volunteers and mentors.

New Vistas is a collaborative endeavor. The Minneapolis public schools provide academic instruction and support services to students; IBM donated fifteen personal computers; Computer Systems Research Inc. donated remedial instruction software; health care services are provided on-site by Minneapolis Children's Medical Center and the Minneapolis Health Department; child care staffing is paid for by Hennepin County Community Services; United Way/Success by Six helps plan involvement of community agencies; and a part-time social worker is supported by the Big Brothers/Big Sisters organization.

For further information, write:

Chris Bremer
Program Manager,
Honeywell Education Affairs
Honeywell MN12-5131
P.O. Box 524
Minneapolis, MN 55410-0524

Parents As Teachers

Parents As Teachers is a home/school partnership designed to give children the best possible start in life and to support parents in their role as the child's first teachers. As a primary prevention program, Parents As Teachers helps parents maximize children's overall development during the first three years of life, thus laying the foundation for school and life success and minimizing development problems which might interfere with learning.

The Parents As Teachers program is voluntary and free, providing parents (beginning, whenever possible, in the third trimester of pregnancy) with child development training as well as information and skills on how to give children the basic foundation that prepares them for school. The program offers:

- Personal visits by certified parent educators trained in child development.

For further information, write:

Mildred Winter
Director, Parents As Teachers National Center
Marillac Hall
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, MO 63121

- Group meetings with other parents to gain new insights, share experiences, and discuss topics of interest.
- Information and guidance to prepare soon-to-be parents for their new responsibilities and to acquaint new parents with what to anticipate as their child grows and develops.
- *Periodic checkups of children's educational* and sensory (vision and hearing) development.

Parents As Teachers was created in response to a Missouri state law requiring all school districts to provide assistance for parents and children before kindergarten. From 1981–85, some 380 families in four Missouri school districts took part in a pilot phase of the program, which was organized by the Missouri Department of Elementary and Secondary Education with support from Danforth Foundation. When children in the pilot project reached age three, a randomly selected group was tested against a carefully matched comparison group. Results of the evaluation, conducted by an independent research firm, confirmed the benefits of the program. By age three, Parents As Teachers children were significantly more advanced in language development, problem-solving and other intellectual abilities, and in demonstrating coping skills and positive relationships with adults. The evaluation also showed that both parents and children benefited from the program, regardless of socioeconomic disadvantage and other traditional risk factors.

A follow-up study in 1989 showed that Parents As Teachers children scored significantly higher on standardized measures of reading and mathematics achievement in first grade. By school reports, a significantly higher proportion of Parents As Teachers' parents initiated contacts with teachers and principals and took an active role in their children's schooling.

Parents As Teachers has expanded nationally in a variety of different ways: US WEST has funded the program in a number of its states (see description on p. 109) and Honeywell, Inc. adapted the program for use with employee parents in its Albuquerque, New Mexico, plant. Scott Paper Company sponsored Parents as First Teachers in two communities — Mobile, Alabama, and Philadelphia, Pennsylvania. In Philadelphia, the program focuses on teen mothers and seeks not only to enable the child to develop properly but also to help the mother stay in school and graduate.

Prudential Foundation's Zero-to-Three Parenting Project

For further information, write:

Peter Goldberg
President
The Prudential Foundation
Prudential Plaza
Newark, NJ 07101

Prudential Foundation provided a $75,000/three-year grant to the Youth Development Center in Newark, New Jersey, for "Zero-to-Three," a therapeutic parenting program for teen mothers (ages twelve to sixteen), their newborn infants, and their extended families.

Zero-to-Three provides young mothers with counseling and parent training designed to meet three goals:

1. To provide mental health therapy and services to infants and teen mothers in a family setting to optimize infant and parent development and their relationship.
2. To promote self-esteem, and academic and vocational education.
3. To encourage peer support in order to reduce repeat pregnancies and reduce the rate of high school dropouts.

The program begins with an in-home assessment of the family system during which time the counselor, the teen mother, and her family develop a family service plan. Although the family service plans are tailored to individual needs, common elements include weekly clinical interventions with each mother and infant using an infant mental health model; bi-weekly intervention sessions with extended families; weekly group sessions with teen mothers at the Chestnut Street School; monthly staff and teacher meetings at the school; and an evaluation to measure effectiveness. Teen mothers are encouraged to complete their high school education while they are learning the skills they need to be good parents.

In addition to Prudential's support, Zero-to-Three receives funding from the Cummings Fund, Schumann Foundation, and Mutual Benefit Life.

Prudential Foundation's involvement in supporting the needs of indigent children extends beyond Zero-to-Three and includes providing a $400,000 grant to help create the National Health-Education Consortium, led by the National Commission to Prevent Infant Mortality and the Institute for Educational Leadership and comprised of fifty-two non-profit organizations. Prudential also supports the Washington-based Food Research and Action Center, which works with community-based food banks and lends technical assistance to local agencies that provide nutritional counseling and food to women and children. This organization also actively analyzes and influences national policy (for example, the Center released a series of publications resulting from its research on federal poverty programs and hunger and testifies on these issues before Congress).

Family-School Collaboration Project

For further information, write:

Howard M. Weiss
Director, Family-School
Collaboration Project
The Ackerman Institute for
Family Therapy
149 E. 78th Street
New York, NY 10021

The Family-School Collaboration Project, part of the Ackerman Institute for Family Therapy, helps schools redesign existing school and classroom activities to increase routine opportunities for family participation and collaboration with school staff in support of children's education.

The Project began in 1981 in response to immediate needs identified by schools. Disruptive students and their families were referred to the Ackerman Institute by schools that felt the student's behavior or academic problems were beyond their control. The messages implicit in such referrals were: The child's problems are the family's fault; once you fix the family, the well behaved or motivated child can be sent back to school. Not surprisingly, families resented these messages and refused to accept full blame for their child's problems. Institute staff proposed family-school problem-solving meetings, held at the school, at which all participants (student, family, and school staff) might reach consensus on the problem and develop a concrete plan to help the child succeed. The Institute soon recognized the need to expand from single school-family interactions and developed the Family-School Collaboration Project, an intervention model to help schools and families develop relationships of mutual trust, regular communication, and cooperation in the interest of the child. The Project has been active for over ten years, working on one- to two-year projects with more than fifty schools in New York City, and with hundreds of other schools in workshops and seminars.

The primary goal of the Family-School Collaboration Project is that the school use family-school collaboration as a resource for achieving its educational aims for students. Although research and data show that family involvement in education is critical to child's success, few systematic and sustained efforts are made to develop good family-school connections. Such family-school relationships are an important precondition for the success of any school improvement and restructuring initiatives.

The Ackerman Institute identified three barriers to active collaboration between schools and families:

1. In most schools there is no vehicle for ongoing, routine communication between the school and families for sharing information, developing educational plans,

and solving problems. This lack of routine communication sometimes leads to a high degree of alienation between families and schools. In addition, most family-school interactions are triggered by problems. As a result, families generally expect interactions to be adversarial, and school staff believe family interactions will take valuable time away from teaching.

2. The cultural, socioeconomic, and racial differences between school personnel and families can lead to real and imagined differences in behavior and approach that, in turn, feed feelings of alienation on the part of families.
3. Schools (and families) have limited conceptions of what roles parents and guardians can play in the schools. In fact, they can play many roles — as partners in helping children learn the skills they need to be ready for school, as collaborators and problem-solvers with students and school staff, as audiences for student performances and achievements, as classroom volunteers and school supporters, and as advisors and co-decision-makers participating on school committees and task forces.

The second goal of the Project is to establish a general climate of family-school collaboration in the school and design a series of activities to generate and reflect this climate. The key to the Project model is that the child is included in virtually all family-school interactions — he or she no longer serves as a "message bearer" between school and home but participates in discussions about educational goals and how to reach them. Families and the school develop an alliance based on the shared vested interest both have in the child's educational progress and social-emotional development. There are family orientation meetings at the school, family-teacher conferences, discussion meetings about adult-student relationships focused on specific issues, and problem-solving meetings — always collaborative, always linked to the needs, concerns, and goals identified by families and school personnel. Through active participation, the student learns how decisions are made, contributes to discussions and problem-solving, discovers her responsibility and accountability for learning, and is assured of the support and encouragement of the adults in her life.

The Project's third goal is that each school and district must assume "ownership" of their efforts to establish a collaborative climate for family-school relations. The Ackerman Institute provides a program of staff training and consultation for schools and districts, but no new staff is required at the school site for implementing or maintaining family-school collaboration. Through the experience of working in schools for more than a decade, Institute staff have identified three organizational prerequisites for a successful family-school collaboration:

1. The principal must be committed to family-school collaboration as central to academic and social school activities and must communicate this commitment to staff, parents, and students.
2. A coordinating committee of family members and school staff must be established at the school to initiate efforts to assess current family-school relationship and identify areas of need.
3. A family-school coordinator must be designated at the school site to organize and facilitate activities to enhance family-school relationships.

Funding for the Ackerman Institute Family-School Collaboration Project is provided by foundations including Aaron Diamond Foundation, Charles Hayden Foundation, New York Community Trust, Exxon Community Trust, Hecksher Foundation for Children, Foundation for Children with Learning Disabilities, Starr Foundation, and United Way.

Home and School Institute

The Home and School Institute (HSI), begun in 1964, has developed a number of programs focused on the educational role of the family and on uniting all the players concerned with education — home, school, media, business, social service agencies, union, and organizations — in an ever-widening circle of community support for schooling and student achievement.

The MegaSkills® Workshop Program, which HSI launched in 1989 with funding from John D. and Catherine T. MacArthur Foundation, teaches and trains parents and guardians to help their children become ready for learning. The program helps parents teach their children what are called the "MegaSkills," ten skills and attitudes people need in order to learn and to achieve success throughout their lives: confidence, motivation, effort, responsibility, initiative, perseverance, caring, teamwork, common sense, and problem-solving.

MegaSkills offers training for workshop leaders to conduct a series of eight parent training workshops, which are sponsored by school systems, businesses, and community groups, and held at schools and companies, in churches and community centers. At these workshops, parents have the opportunity to share ideas and discuss ways to help their children get ready for school and become better students. Workshop leaders give participants easy-to-do assignments, called "recipes," as a starting point for student-parent interaction. Through these activities, parents learn to use household tasks to reinforce behaviors and skills needed for school and life success and students begin to develop the ten MegaSkills. Even these simple assignments enable parents to start teaching their children the confidence they will need later for academic success.

The MegaSkills program is grounded in the belief that education is not just the function of schools, and that all parents can and must be involved in their children's education well beyond the school setting. Many teachers work to coordinate what is learned inside the classroom with what is learned outside, and they must have the active participation and enthusiasm of the family to reinforce children's academic and social skills.

Over 16,000 parents have been trained in MegaSkills workshops in thirty-four states, and many of these programs receive the financial support of local companies. For example, First Tennessee Bank sponsors MegaSkills in Memphis, Tennessee, and Project A Plus/IBM supports the program in Austin, Texas. The training workshops are not always conducted at a school site; in Austin, for example, Advanced Micro Devices, IBM, and Motorola are training their employees in the program.

For further information, write:

Dorothy Rich
President
Home and School Institute, Inc.
1201 16th Street NW
Washington, DC 20036

School Development Program

The School Development Program (SDP) was first introduced into two elementary schools in New Haven, Connecticut, in 1968 as an intervention program to promote child development and learning by building a support system of family members and school personnel. James P. Comer, founder and director of the School Development Program, recognized that many of the problems inner-city students have in developing the skills and behaviors needed to meet the expectations of school can be attributed to social and economic stress on their families and to their isolation from mainstream society. SDP tries to create a better learning environment for students both in school and at home — increasing their self-confidence and interest in learning, and encouraging parents to take an active role in their children's education. Underlying the SDP approach is Comer's belief that "teaching methods, achievement levels, and credentials of the teacher — even the quality of the curriculum content — are of little value in a sufficiently distressed school setting." The key to achieving student success is to involve parents in the schools and thus create a desirable context for teaching and learning.

For further information, write:

James P. Comer
Yale University Child
Study Center
P.O. Box 3333
230 South Frontage Road
New Haven, CT 06510-8009

For the School Development Program to succeed, parent participation must be well conceived and well structured. SDP restructures the governance of elementary schools by creating management teams to provide students with the strong network of educational, cultural, and social support they need for personal growth and academic success. The teams, usually led by the school principal, include parents, teachers, a mental health specialist, and nonprofessional support staff; the teams function to improve communication between the school and the home. There are three basic components of the SDP: a school planning and management team, a mental health team, and a parents program.

The School Planning and Management Team usually consists of ten to twelve members — the principal, four teachers, three or four parents, a mental health team member, and a nonprofessional support staff member. The team meets weekly to establish policy guidelines to address the curriculum, social climate, and staff development aspects of the school program. It carries out comprehensive school planning, resource assessment, program implementation, evaluation, and modification in the areas of curriculum, social climate, and staff development. Through the team's efforts, school social and academic activities are planned and coordinated among individual teachers and with the parent group. It is the School Planning and Management Team that develops a master plan with building-level objectives and goals and strategies to reach those goals in the areas of school climate, academics, and staff development.

Three guidelines — no fault-finding, consensus decision-making, and collaboration — are generated in the School Planning and Management Team interactions. These attitudes and patterns of behavior eventually permeate all activities and establish the culture of the school.

Central to the School Development Program is its use of a Mental Health Team at each school site. The Mental Health Team, consisting of a classroom teacher, a special education teacher, a social worker, and the school psychologist, meets weekly to respond as a cohesive group to referrals by classroom teachers. When appropriate, the Mental Health Team recommends changes in school policies and practices that could prevent behavioral problems. In addition, the team trains school personnel in ways to provide a variety of services that support students' developmental needs, conducts classroom observations, consults with teachers and families, and counsels students.

The Parent Program is the third component of the School Development Program and helps schools cultivate school-family collaboration through broad-based activities for parents. In addition to parent involvement in planning and joining social activities, SDP encourages parents to work as classroom assistants, tutors, or aides. Parents are also part of school governance through their participation on the School Planning and Management Team.

The School Development Program is now being implemented in 165 urban and suburban schools in fifteen districts throughout twelve states and the District of Columbia. In 1990 the School Development program became the core component of a Rockefeller Foundation $15 million/five-year effort to improve education around the country. In addition, a Melville Corporation initial gift of $250,000 will be used to extend the SDP into a number of other school systems and to incorporate its principles into the curriculum of teacher-training institutions.

In 1991 the Hartford, Connecticut, public schools received grants totalling $486,286 over three years from Hartford Foundation for Public Giving and The Travelers Companies Foundation Inc. to launch the School Development Program on a large scale throughout the system. These grants include funds for an independent program evaluation of SDP schools to determine the effectiveness of the initiative and to identify early operational lessons to help guide schools adopting the program.

The School Development Program is supported by grants from a number of other private and corporate foundations, including Carnegie Corporation of New York, Exxon Education Foundation, Charles E. Culpeper Foundation, Inc., and John D. and Catherine T. MacArthur Foundation.

New Futures Initiative

For further information, write:

Ira Cutler
Associate Director
Annie E. Casey Foundation
One Lafayette Place
Greenwich, CT 06830

In 1988 Annie E. Casey Foundation launched the New Futures Initiative, a $50 million/five-year partnership between the foundation and five cities, aimed at developing comprehensive strategies for addressing the problems of at-risk youth. The selected cities — Dayton, Ohio; Lawrence, Massachusetts; Little Rock, Arkansas; Pittsburgh, Pennsylvania; and Savannah, Georgia — each received between $5 million and $12.5 million to form a collaborative and begin citywide programs to reach three goals:

1. To reduce the incidence of adolescent pregnancy and parenthood.
2. To increase school attendance, academic achievement, and graduation rates.
3. To reduce youth unemployment and inactivity.

Other cities received smaller grants from Casey Foundation to implement portions of the New Futures proposals: three-year innovation grants of $750,000 were given to Bridgeport, Connecticut, and Rochester, New York, and a smaller one-year grant to Fresno, California. The participation of Lawrence, Massachusetts, in New Futures was concluded at the end of the second year, and Bridgeport was awarded $5 million to become a new Futures city in year three.

The New Futures Initiative was based on what seemed to be three simple ideas:

1. Youth-serving institutions such as schools, social service agencies, and employment organizations, have a major impact on the experiences, expectations, value formation, and potential for positive outcomes of at-risk youth and their families. Therefore, the place to address youth problems is through these institutions.
2. In addressing these problems, no one institution can work alone. The problems are interrelated in such a way that neither the causes nor the solutions rest with any single institution. Therefore, the emphasis must be on a collaborative approach to working with at-risk youth.
3. The responsibility for change and the accountability for results must be shared by the entire community.

Three years into the Initiative, Casey Foundation executives and project leaders concede that the process of coordinating the services of youth-serving institutions is much more complicated, political, and difficult than they anticipated.

Each New Futures project created an interagency oversight board known as the Collaborative, which consists of influential decision makers (state officials, superintendents, heads of social service agencies, health officials, clergy, local business leaders) as well as individuals who represent potential service recipients (parents, community-based organizations, and students). The Collaborative is responsible for identifying problems facing at-risk youth, analyzing barriers to the local delivery of services, establishing goals for improving agency interactions around youth issues and school-agency relationships, and speaking as a community voice on behalf of children.

Conflicts between the school system and the Collaborative derailed the Lawrence project. Although youth-serving institutions at other sites were more successful at cooperating, they found their efforts blocked by the lack of data on the extent of the problems facing at-risk youth and an inability to track student progress. Among the most important successes of New Futures to date have been the development of effective management-information systems that will help cities consolidate previously-dispersed data on children, raise the community's awareness of problems plaguing youth, and inform the design and reform of services for disadvantaged children and families.

At the beginning of the project, each Collaborative designed a number of programmatic interventions to reach its five-year goals. For example, they planned to set up health clinics at or near high schools, design interdisciplinary teams of teachers for middle schools, hire full-time, school-based nurses and/or develop case management systems to make sure that each child's problems are clearly understood and support services arranged and tracked. Although some elements of these programs have worked well, participants recognize that there is an "add-on" quality to their initiatives that may actually retard progress toward changing school and service agency systems to make them both more responsive and more effective.

Given the initial tendency to fund "add-on" programs, New Futures Collaboratives are spending considerable time during the third year establishing priorities for their youth programs and focusing and developing their work in critical areas, such as building political legitimacy to lead reform, using data as a strategic tool, using resources to leverage change, and acting collaboratively.

Many New Futures participants in the five cities agree that not enough time was spent planning and developing their projects. In many cases, the Collaboratives attempted to implement their ideas before establishing a solid relationship with school and other agency personnel or understanding the strengths and weaknesses of the individual schools and agencies with which they were working. And only at times were change efforts linked to existing reform goals, such as those associated with school restructuring efforts. In some cases, this kept the services for disadvantaged students isolated from other changes going on in school.

Annie E. Casey's New Futures Initiative attempts to address the critical social issues sidestepped by many education reforms because they are too complicated. The Initiative is also undertaking to tackle these issues on a citywide basis, rather than as a single isolated model program. The lessons being learned from this experiment are important and will not only be used for the further development of this project but also to inform the responses of other communities and cities struggling to link social service agencies with schools. Casey Foundation and its New Futures projects have begun moving in the direction of system and institutional change, coordinating social agency collaboration with school restructuring reforms. To support this effort, the Foundation plans to extend for up to two years the time frame for participating cities to spend the money; the Foundation may also offer additional funding as needed in successful projects.

The Great Potential Program

For further information, write:

Joseph Carbone
Director, Great Potential Program
SUNY Purchase Westchester School Partnership
State University of New York
Purchase, NY 10577

Great Potential is a school-based program designed to address the educational and developmental needs of young people identified as "at risk" of not completing school. The program's mission is to foster a collaborative effort of services to motivate, educate, and maintain students otherwise unable to achieve personal and school success.

Great Potential was created in 1987 through a partnership of SUNY Purchase Westchester School Partnership, Community Youth-at-Risk, Liberty Partnerships Program, and Cities in Schools. Started with a $98,500 grant from Kraft-General Foods (then General Foods Corporation) in one high school, Great Potential has expanded into ten public and private schools. Through the program students receive personal counseling, individual tutoring, prevocational orientation, and help in finding part-time or summer work; parents receive advice and support in how to help their children.

An advisory board made up of representatives from the community, agencies, business, politics, and education keeps the program focused on its goals: to form a collaborative that coordinates the delivery of services with knowledge and caring to students at risk; to address school needs to meet workplace demands; and to serve a diverse population of students.

The SUNY Purchase Westchester School Partnership provides many other important links between schools and community through a variety of programs including leadership training, the center for mathematics and science education, and an early childhood education program. Contributors to the Partnership include Bank of New York, Casio, IBM, International Paper, MCI, New York Power Authority, PepsiCo, Primerica, and Sherman Fairchild.

School-Based Health Clinics

For further information, write:

Michael A. Godfrey
Coordinator, School-Based Health Clinics
Los Angeles Unified School District
450 North Grand Avenue, Room G-270
Los Angeles, CA 90012

Also:
Ellen Hollingsworth
Public Affairs Specialist
Phoenix Mutual Life Insurance Company
One American Row
Hartford, CT 06115

Many schools, particularly those serving a disadvantaged urban population, seek to provide health care to their students through school-based clinics. The Los Angeles Unified School District has established three such clinics: Jordan High School (services provided by the Watts Health Foundation); San Fernando High School (services provided by Northeast Valley Health Corporation); and Los Angeles High School (services provided by Children's Hospital of Los Angeles).

These school-based clinics offer comprehensive primary health care services (with signed consent form from parent); diagnosis and treatment of illnesses and minor injuries; pregnancy testing, immunizations, dental and visual screenings, laboratory services, and prescriptive and over-the-counter medications. The clinics serve teen mothers and their babies, students involved in drug and alcohol abuse, students considering suicide, and they offer in-school weight control programs, counseling, and therapy sessions. In addition, the clinics refer students to hospitals, counselors, or detoxification facilities as needed.

School-based clinics provide schools with a number of additional resources: making classroom presentations on a variety of health-related subjects, providing grief resolution groups and violence prevention seminars; teaching responsible teen sexuality at special seminars; hosting sports medicine seminars for coaches and students, and placing health education columns in the student newspapers.

The Robert Wood Johnson Foundation Site Team conducted visits to the three clinics in 1989 and identified several strengths in the program. Large numbers of students are receiving medical care and counseling, and the quality of the professional staff and their services is good. An independent data collection and analysis was conducted in 1991 to study the impact of the school-based health clinics on school immunization rates and to document the relationship between utilization of a school-based health clinic and school attendance and academic performance.

The three school-based health clinics in Los Angeles receive funding from Robert Wood Johnson Foundation, Stuart Foundations, Brush Foundation, Employees Charity Organization of TRW, Educational Foundation of America, and National Medical Enterprises, Inc. The school district is highly committed to the clinics and, if budgets allow, would like to increase the number of school-based clinics available to students.

Other communities have also had success with school-based clinics. With help from Phoenix Mutual Life Insurance Company, for example, Hartford, Connecticut, public schools established clinics in a high school and a middle school. These clinics provide general physical health services, such as examinations, immunizations, treatments of injuries and disorders, on-site pregnancy testing, family planning referral, referral for sexually transmitted diseases, and coordination procedures in the area of substance abuse. After two years of providing basic health services to students and with additional funding from Hartford Community Foundation, both clinics expanded the mental health component of their programs by providing counselors on site to work with students as needed.

Healthy Me

For further information, write:

Sibyl Jacobson
President
Metropolitan Life Foundation
One Madison Avenue,
Area 12H
New York, NY 10010

In 1985 Metropolitan Life Foundation launched Healthy Me to promote excellence in school health education and over 150 exemplary school health programs were recognized and rewarded from 1985 through 1989. The purpose of the initiative was to encourage the development, adoption, and implementation of quality comprehensive education-for-health programs in schools throughout the United States.

Not only did the $5 million Healthy Me initiative provide grants for schools with outstanding comprehensive health education programs, it also provided funds for community coalitions that actively promote such programs, classroom teachers who want to improve their health education skills, wellness programs for teachers and other school personnel, and information programs designed to raise awareness of effective school health education.

Among the kinds of programs that received Healthy Me grants are: "My Best Me," a continuous, multilevel, multimedia program using creative motivational techniques to foster wellness, including field trips, health campaigns, and countywide health fairs in Decatur, Alabama; a K–12 program developed in tandem with a local human service agency, to teach health-related skills to students in every grade in every school in Easthampton, Massachusetts; and a K–12 structured curriculum including an assistance program for students with physical or emotional health problems, a policy on substance abuse prevention, and community education courses for parents in Newport, Oregon.

The Foundation funded a national survey in 1988, carried out by Louis Harris and Associates, on the status of health education in the nation's public schools, with a comparison component that showed significant benefits in knowledge and health behavior for students receiving comprehensive health education.

In 1990 MetLife Foundation produced a compendium of programs that have won Healthy Me awards to spread the word about high-quality comprehensive school health education and provide models for other schools to adapt.

Preschool and Early Learning

US WEST Foundation's Early Childhood Initiative

For further information, write:

Jane Prancan
Executive Director
US WEST Foundation
7800 East Orchard Road,
Suite 480
Englewood, CO 80111

As part of its major Education Initiatives program, US WEST Foundation developed a three-year/$10 million grant program in early childhood education. A number of compelling factors influenced the Foundation as it developed its initiative:

- Research shows that much of a child's educational success is influenced in the first three years of life; personality is formed during the first two years and basic cognitive and language skills are developed during the first three years.
- Children in poverty are at greater risk of educational failure. Twenty-five percent of all children under the age of five in the United States live below the poverty line.
- The value of early childhood programs is well documented. Comprehensive early childhood programs improve the intellectual performance of children; reduce the need for placement in special education classes, the need to repeat grades, and the dropout rate; increase the rates of postsecondary enrollment and employment; and decrease the rate of delinquency and arrest, teenage pregnancy, and dependence on welfare.
- Every $1 invested in quality preschool experiences saves $4.75 in later social costs.

The Foundation made a series of Early Childhood Education Initiative Grants to organizations in its fourteen-state region. Additional resources enabled local Head Start centers to develop home-based parent education programs to complement preschool programs for the children; a preschool center to add job training and adult education classes to its parenting skills workshops; and a Parent-Infant Education Program to expand maternity and infant care with a continuum of comprehensive services for high-risk families. US WEST grants not only support programs for parents to learn parenting skills and finish their own schooling, but also fund childhood research, advocacy, and needs assessment.

The specific theme of the Foundation's efforts is "Parents As First Teachers" (see description, p. 99), enabling parents to develop the language, reading, thinking, and social skills of their children from birth to age five. The three objectives of the program are to help parents prepare their young children for success in school; to increase the availability of information, training, and technical assistance for early childhood organizations to enhance parent education; and to communicate information about the importance of early childhood progress to educators, public officials, and other relevant audiences.

Texas Instruments' Head Start Program

For further information, write:

Ann F. Minnis
Grants Administrator
Texas Instruments Foundation
7839 Churchill Way
P.O. Box 650311, MS 3906
Dallas, TX 75265

In 1990 Texas Instruments Foundation, working with Head Start, provided Dallas County Family Services with a special grant to create the Margaret H. Cone Center, a full-day model preschool program for approximately ninety four-year olds from economically disadvantaged families. The $288,000 annual grant will be used to supplement the Head Start program so it can better serve children. Major components of the Texas Instruments program include:

- A twelve-month model child-development program within the Dallas County Head Start program that offers five components: education, health, nutrition, social service, and parent involvement.
- Enrollment open for all four-year-old children in a geographic area, regardless of family income.

- Additional personnel — including a degreed child development specialist, who also serves as an assistant director of the center; a nurse practitioner on site; two social workers on site; and augmented salaries for regular Head Start staff.
- Home visits by teachers to discuss children's progress, and active recruitment of parents to serve as volunteers at the school.
- Ongoing evaluation of the model preschool in collaboration with the Community Services Development Center of the University of Texas at Arlington.

The TI Foundation's involvement in this program grew out of a study of the effectiveness of preschool programs in Dallas for children from low-income families, conducted by University of Texas - Arlington's Community Services Development Center under a 1988 grant by the foundation. Modeled after the more comprehensive Perry Preschool Project in Ypsilanti, Michigan, the Dallas study compared children who attended a preschool program over a period of five years to children who had not attended that type of program. Several findings reinforced those learned in the Perry Preschool Project, most notably that children who had not had this type of preschool education were seven times more likely to repeat a school grade. The study also revealed that parents with children enrolled in preschool made a significantly greater investment in educational supplies in the home.

Based on the findings of their study, the Community Services Development Center developed a model preschool program to offer comprehensive services intended to match the educational and developmental opportunities that four-year olds in more affluent families enjoy. Classroom activities are designed to stimulate children's intellectual curiosity, and parents are taught how to use in-home experiences to reinforce the skills being learned at school.

Head Start is one of several alternative preschool programs in Dallas. The Cone Center, however, provides a unique model in its insistence that health and nutrition are necessary foundations for children's education and development.

Johnson & Johnson's Head Start Management Fellows Program

For further information, write:

Helen Hughes
Senior Contributions
Administrator, Office of
Corporate Contributions
Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933-7006

The Head Start-Johnson & Johnson Management Fellows Program is designed to strengthen the management skills of Head Start directors. Through an intensive two-week seminar conducted by the John E. Anderson Graduate School of Management at University of California at Los Angeles and supported by Johnson & Johnson, participants develop expanded management capabilities to implement Head Start objectives and handle increased public and private program funding.

The curriculum of the Management Fellows Program provides directors with the opportunity to enhance their ability to plan, finance, lead, and control the effective delivery of Head Start services and the development of community, financial, human, and organizational resources. Participants also learn strategies for achieving measurable results for their Head Start programs. Each Fellow is required to design a Management Improvement Project to be implemented upon completing the program. Examples include a facilities development project, an organization restructuring plan, and resolving a specific management problem.

Those Head Start directors who attend the program agree to involve a co-participant for the final three days of training as part of a "Strategic Planning Forum." The Forum prepares the two representatives to implement the specific management improvement plans within their organization during the upcoming year. Fellows are given the opportunity to join the Head Start Training and Technical Assistance Network to help arrange one or two day workshops for states or regions, serving as resource contacts for directors who have management questions or implementation problems.

The Center for Successful Child Development

For further information, write:

Haroldine J. Bourelly
Community Linkages
Director
Center for Successful Child
Development
4848 South Street, 2nd floor
Chicago, IL 60609

The Center for Successful Child Development (CSCD), popularly known as the Beethoven Project, began in 1987 to prepare children residing in Chicago's Robert Taylor Homes housing development for kindergarten at the Beethoven Elementary School. The children and their families face all of the social problems that accompany urban poverty — high crime, unemployment, and school dropout rates, and extensive health and nutrition problems. Without positive intervention in the first years of life, these children are at high risk of school failure, which, in turn, places them at high risk of early pregnancy, adolescent delinquency, substance abuse, lack of marketable job skills, and other problems that perpetuate poverty. CSCD focuses on coordinating and expanding the health, nutrition, education, and child care services available to families so they become stronger and better able to provide children with skills they need for school.

A joint project of the Ounce of Prevention Fund and the Chicago Urban League, CSCD combines four basic early intervention models — home-based family support services, center-based family support services, maternal/child health services, and early childhood education — into a single, comprehensive program to prepare children for kindergarten entry and later school success.

- Home-based family support services are provided through regular home visits by Parent/Child Advocates who identify individual needs, make appropriate referrals, and offer information on education, parenting, and child development issues.
- Center-based family support services include on-site services at the CSCD Family Enrichment Center, which provides a wide variety of structured and informal activities for adults, including educational classes (on topics such as child growth and development, child safety, and nutrition), support groups, and counseling designed to build parenting skills and increase parents' knowledge of child development. The Enrichment Center also provides infants and toddlers routine development assessment and screening as well as training for professional staff and Parent/Child Advocates.
- Maternal/child health services are the main focus of the Primary Care Center. Primary prenatal and postpartum care is available for mothers; obstetrical supervision, management of high-risk pregnancies, and delivery services are provided at area hospitals. The Primary Care unit is currently staffed by a family practice physician, a pediatrician, a public health nurse, and a medical assistant.
- Early childhood education is available at the Infant-Toddler Day Care Center for children age two and younger whose mothers are enrolled in school, G.E.D. classes, job training programs, or are working full-time. The Infant-Toddler Day Care Center is part of a continuum of early education services that CSCD provides for children from three months to five years of age, which includes a full-day, year-round Head Start program.

Funding for CSCD's programs and services is provided by foundations, corporations, federal and state government agencies, and individuals. Major multi-year grants have been received from Harris Foundation, Robert Wood Johnson Foundation, and the U.S. Department of Health and Human Services, Office of Human Development Services. CSCD's sponsoring organizations, Ounce of Prevention Fund and the Chicago Urban League, both contribute staff and technical expertise to the project.

Travelers' HELP for Preschool Children

For further information, write:

D'Wanna Berg
Manager, National &
Community Affairs
The Travelers Companies
One Tower Square, 6SHS
Hartford, CT 06183-1060

In 1986 representatives from the Hartford, Connecticut, public schools, the University of Hartford, and the Travelers Companies Foundation began a series of focused meetings on early childhood education opportunities in the community that resulted in the Hartford Early Learning Partnership (HELP).

The HELP partners created a developmentally appropriate curriculum for use at the preschool and elementary school levels. The curriculum, created by faculty from the school district and the university, helps children develop language, motor, social, and emotional skills. Mastering these skills is critical if children are to be "ready to learn" when they enter school and establishes a foundation for future school success.

HELP has served over seventy-five students in six full-day kindergarten classes for three years (1988–89, 1989–90, 1990–91). A longitudinal study shows that these HELP kindergarteners gained an average of 16.2 developmental months during one academic year. In some cases, children gained twenty months in one academic year. HELP's developmentally appropriate practice follows the kindergarten students, now serving the 1988–89 cohort in the second grade. Based on these positive results, the district has adopted the HELP model as the foundation for its early childhood curriculum.

School-to-Work

Career Beginnings

For further information, write:

William Bloomfield
Director, Center for
Corporate and Education
Initiatives
Brandeis University,
Heller School
P.O. Box 9100
Waltham, MA 02254-9110

The Career Beginnings Initiative, launched in early 1986, aims to increase the number of high school juniors from low-income families who complete high school and enter college, technical training, or full-time employment. Some 10,000 students — and their 10,000 adult mentors — have now participated in Career Beginnings, and initial evaluation results suggest that the strategy works.

Career Beginnings targets those students with average grades who are underachieving but are not at risk of dropping out of school. These students, often ignored by school programs that focus on either high achievers or poor achievers, come from generally disadvantaged backgrounds; most are minority students, over 50 percent of them are from single-parent families, and most are officially poor. Through Career Beginnings these students receive the advice, support, and extra motivation they need to succeed academically and on the job. The nineteen-month program consists of four major components:

1. **Mentoring.** Students are matched with adult mentors from the local business and professional community who help them gain the attitudes and skills they need to enter a career or attend college. Mentors are carefully selected, trained, and supported; they, along with the staff, help their students with career planning, applying to college, and understanding the professional work environment.
2. **Workshops and Seminars.** In addition to receiving support and guidance from the Career Beginnings university and high school staffs and from their mentors, students attend workshops on career planning, basic academic skills (reading, writing, mathematics), personal skills (money management, time management, family planning), college financial aid programs, employers' expectations, job behavior, and resume writing.
3. **Summer Internships.** Every Career Beginnings student is placed in a job during the summer between the junior and senior years. The employment experience has three objectives: It provides a learning experience as well as a chance to earn much-needed money during the summer months; it is often the student's first real employment experience and provides a glimpse into the world of work; and it helps youngsters discover that they have skills and can make a contribution to a business or public sector organization.
4. **Staff Support.** Career Beginnings staff, operating from the college or community partner, work with students to keep them on track, focused, and moving toward their goals. Because of their limited experiences and lack of positive opportunities for achievement, Career Beginnings students need more attention from caring adults — not only from their mentors — than do middle-class youth. Career Beginnings staff, as well as others from the public schools and the college, work with mentors and students to make sure the students have the backup they need to succeed.

In 1989, with funding from Commonwealth Fund, Louis Harris and Associates conducted a national survey evaluation of 400 Career Beginning students and their mentors. The study revealed not only major changes in student attitude and behavior — more respect for people of other races, improved relations with teachers and relatives, more self-confidence — but also significant academic benefits. Ninety-eight percent of students who complete Career Beginnings graduate from high school; 55 percent attended college (more than 80 percent of the 1990 class elected college); none were arrested, none expelled; and 93 percent anticipated successful careers. The business mentors also described receiving personal benefit from their participation in the program through an increased understanding of and empathy with people of other races and strengthened relationships with their own families.

Both Career Beginnings and a complimentary program for college students, Higher Ground (see description p. 122), are managed nationally by the Center for Corporate and Education Initiatives (CCEI). CCEI works with corporations, higher education, public schools, and government to create communitywide opportunities for at-risk, underachieving, and low-income students to attain the skills and credentials they need to reach their educational and career potential. In partnership with Sun Microsystems, Inc., and Community Action, a Massachusetts multi-service community agency, for example, CCEI has begun a pilot Career Beginnings initiative for teen mothers in Haverhill, Massachusetts. CCEI is confident that this variation on the basic Career Beginnings model will help pregnant and parenting young women finish high school and plan for college or a career. After the initial two-year pilot phase, the project is expected to expand to other communities experiencing an expanding teen parent population.

With a grant from DeWitt Wallace-Reader's Digest Fund, CCEI has launched Futures 2000, a new school improvement strategy for middle schools. Scheduled to begin in three school districts in the fall of 1992, this three-year pilot project is designed to help middle grade youngsters improve their classroom performance and to help them and their families become more aware of educational and career options beyond high schools. Using an interactive curriculum and involving business and industry in the classroom, this initiative, CCEI believes, will create a bridge between the abstract learning concepts students are exposed to in school, what they experience at home, and opportunities to examine the broader business and professional world. By creating a new structure for classroom learning and family-school communication, this "future options" approach will help middle school students make the transition to high school with confidence, academic competence, and well developed ideas and plans for their futures.

The work of CCEI is sponsored nationally by foundations and corporations, including Pew Charitable Trusts, Ford Foundation, Commonwealth Fund, John D. and Catherine T. MacArthur Foundation, Gannett Foundation, Melville Corporation, Aetna Life and Casualty, RJR/Nabisco Foundation, and Sun Microsystems.

INROADS

For further information, write:

Reginald D. Dickson
President and CEO
INROADS
1221 Locust Street, Suite 800
St. Louis, MO 63103

Chicago businessman Frank C. Carr created INROADS in 1970 as a vehicle to help minority students gain the knowledge, confidence, and skills to succeed in the corporate world. There are now over 2,600 INROADS graduates pursuing careers in business and industry, including a president of a corporate subsidiary, a CEO of an investment banking firm, corporate vice presidents, managers, and program administrators.

INROADS is a career development program for college-bound African American, Hispanic, and Native American students interested in management careers in business or engineering. Once accepted into the program, students attend seminars to prepare for interviews with participating companies who select one or more interns. Selected interns are then committed to a four-year college/work program that includes maintaining good academic standing at the university; working with INROADS staff to prepare career, education, social, and service performance goals and develop strategies to meet those goals; and satisfactorily performing assigned tasks with the sponsoring corporation. Corporate sponsors pledge to work in several ways with individual interns: by helping them develop career plans, offering summer employment opportunities (with performance evaluations), and providing counseling and training.

INROADS has developed a precollege component which prepares students to enroll successfully in the INROADS college program. High schools students are required to complete intensive academic, personal development, college prep, and career-awareness classes in addition to their regular high school curriculum. When they complete this program, they are eligible to compete for the four-year college/business internships. The fourteen INROADS Precollege Components work with thirty-one host universities.

The program that began with twenty-five students, sponsored by seventeen Chicago-area companies, now has thirty-nine affiliates, over 5,300 students, and 700 corporate sponsors including AT&T, IBM Corporation, Chubb Corporation, Northern Telecom Inc., Procter & Gamble, Shell Oil Company, General Motors Corporation, Arthur Andersen & Company, Mobil Corporation, United Technologies, Prudential of America, Union Carbide Corporation, Kaiser Permanente, Chevron Corporation, NYNEX, NCNB Corporation, General Electric Company, Johnson & Johnson, Abbott Laboratories, Hoechst-Celanese, KPMG Peat Marwick, 3M Company, and Price Waterhouse.

New Horizons Technical Center

For further information, write:

Patrick M. Konopnicki
Principal/Partnership
Coordinator
New Horizons
Technical Center
520 Butler Farm Road
Hampton, VA 23666

The New Horizons Technical Center (Hampton Roads, Virginia) was established in 1965 to serve students in six area school districts and fourteen high schools. The Center provides academic courses, technical training, and work experiences that relate schoolwork and career opportunities. In addition to offering regional vocational technical courses, the Center was designated as one of the state's four Governor's schools for gifted science and technology students.

Newport News Shipyard, Virginia's largest employer, embarked on a partnership with the Center in 1965 that has evolved to include a wide range of activities such as the donation of welding and computer equipment, the participation by Shipyard personnel as guest speakers in classes, the creation of summer internships for drafting and design students, and the award of a $25,000 grant for public relations. The Shipyard's relationship with New Horizons has changed to reflect the company's increasing reliance on high technology. Recently, the Shipyard donated sophisticated computer equipment and provided a consultant for the Computer Aided Design (CAD) Drafting Program. The summer drafting internships also provide students with opportunities to perform demanding assignments in engineering, computer, and design labs. Some students were able to work on the latest Sea Wolf Submarine Project. Over the past two decades, the Shipyard has provided jobs to many New Horizons graduates.

NASA's Langley Research Center formally adopted the New Horizons Governor's School for Science and Technology Program in 1984. The partnership provides students with challenging state-of-the-art learning experiences through association with NASA scientists and engineers. Through the NASA partnership, New Horizons students have opportunities to become involved in substantial research and development projects. For example, one student (the only high school student ever to do so) was in a mentorship project associated with the Long Duration Exposure Facility (LDEF) and flew to Cape Kennedy when the LDEF landed after shuttle retrieval. Other students were active participants in the two-year project of refurbishing the Apollo Lunar Excursion Module Simulator (LEMS) which was used to help train every astronaut who set foot on the moon. When plans were developed to display the LEMS in the Virginia Air and Space Center, NASA had the vehicle moved to the New Horizons Technical Center to give students and staff a role in restoring the lunar landing facility. Working with NASA engineers and technicians, Center students learned engineering design and construction as they used original blueprints and photographs to guide the restoration process. There has been mutual gain from the NASA/NHTC partnership, as both NASA engineers and New Horizons faculty were trained in computer-aided design using the Prime computer and CAD terminals located at New Horizons. Since its beginning in 1984, the partnership has provided mentorships for 219 students, and NASA employees have contributed over 5,000 volunteer hours.

In addition to the Shipyard and NASA, a number of other area businesses are involved with New Horizons, including Amoco Oil Refinery, Bayside Nursing Home, Coliseum Park Nursing Home, Sentara Hampton General Hospital, Langley Air Force Base, Rockwell International, Thomas Nelson Community College, Hampton Roads Policy Academy, Housing Partnerships, IBM Corporation, Clancy & Theys Construction Company, NAPA Auto Parts, General Motors Training Division, and local automobile dealerships.

Philadelphia High School Academies

For further information, write:

Natalie S. Allen
President
Philadelphia High School
Academies, Inc.
230 South Broad Street,
2nd floor
Philadelphia, PA 19102

Created in 1969 to motivate high school students to complete their educations while learning marketable skills, the Philadelphia High School Academies illustrate a long-term partnership between business, labor, and community organizations and the Philadelphia school district. The school-within-a-school program links academic skills to occupational training and, in turn, links education to steady jobs and paychecks. The success of the program can be measured by the over 89 percent average daily attendance rate; a less than 4 percent student dropout rate; a 97–98 percent high school graduation rate; and a 90 percent employment rate after graduation.

The Philadelphia school district and its business partners share responsibility for funding, planning, and policymaking, for curriculum design and day-to-day management. Each Academy integrates academic and occupational skills training for students and includes staff development activities to train teachers in team teaching techniques that include cooperative planning and individualized student instruction. Job-ready students are provided paid work experience through part-time work during the school year and full-time work during summer and after graduation.

While students may progress according to their individual capabilities, they must ultimately demonstrate prescribed levels of competency. Academy students complete both fully-approved occupational training programs and all state-mandated academic courses. Furthermore, students are required to exhibit positive attitudes, good work habits, above average attendance, and good grades.

There are eight Philadelphia Academies, including:

1. **Applied Electrical Science** (1969), with Bell Telephone Company of Pennsylvania and the Philadelphia Electric Company, trains students for careers in the electrical and electronics industry.
2. **Business** (1972) provides students with skills and experience for a wide range of entry-level clerical positions.
3. **Applied Automotive and Mechanical Sciences** (1974), with Sun Refining and Marketing Company's sponsorship, teaches students the necessary skills to enter the automotive field and related industries.
4. **Health** (1982) prepares students for postsecondary education leading to careers in medicine and allied health care.
5. **Horticulture** (1988) provides students with the necessary skills and field experience for employment in the horticulture industry.

6. **Environmental Technology** (1988) trains students in the subject areas and laboratory techniques needed for further training in the field of environmental assessment and control.
7. **Fitness, Health Promotion, and Sports Education** (1990) prepares students for jobs or further training in the physical "wellness" and education professions.
8. **Hotel, Restaurant, and Tourism** (1991) offers courses and experience leading to careers in the hospitality industry.

Over 150 corporations and foundations support the Philadelphia High School Academies, including Aetna Insurance Company, ARA Services, ARCO Chemical Company, CIGNA Foundation, Connelly Foundation, Continental Bank, Conrail, Franklin Electric Company, General Electric Company, Graybar, Incorporated, Hunt Manufacturing Company, Mellon Bank, Philadelphia Coca-Cola Bottling Company, Philadelphia Newspapers, Quaker Chemical Company, Reliance Insurance Company, Rohm and Haas Company, Scott Paper Company, Union Electric, and Westinghouse.

National Academy Foundation

For further information, write:

Phyllis Frankfort
Executive Director
National Academy Foundation
660 Madison Avenue,
Suite 1804
New York, NY 10021

The National Academy Foundation, created in 1990 to build on the seven-year record of success of the Academy of Finance, is a nonprofit organization designed to expand the resources and opportunities available to high school students interested in emerging careers. National Academy Foundation replicates the Academy of Finance model and applies it to other professions and industries where rapid growth is anticipated. The common element critical to each Academy is the partnership formed among business, education, government, and labor, aimed at providing critically needed leadership and resources to improve the education and career preparation of the next generation of American workers.

The Academy of Finance was created in 1982 by American Express and Shearson Lehman Hutton in partnership with the New York City public schools to bridge the gap between the classroom and the workplace. The Academy of Finance, like all NAF academies, is a school-within-a-school that offers an enriched, elective, two-year comprehensive academic program in a public high school. Each program features a fully developed and published curriculum composed of specialized courses created collaboratively by industry specialists and educators; paid summer internships at participating firms; a college component for seniors at local college or university; visits to appropriate industry sites; and seminars by industry leaders. The goal of these academies is to help students develop career skills, understand their own potential for success, and establish personal goals.

In addition to the Academy of Finance (of which there are fifty-one programs nationwide), NAF has created the Academy of Travel and Tourism (nineteen in twelve cities), the Academy of Public Service (operating in four cities by February 1992), and the Ford Academy of Manufacturing Sciences (opened in fall 1990 in Michigan). Each Academy site is customized to meet the school and community profile and developed as a stand-alone program with its own manager, faculty, and the strong participation of business on an advisory board. Ongoing technical assistance and quality assurance are provided by National Academy Foundation. Local companies encourage employee participation and provide funding for those academies set up in the school districts. Nationally, NAF is supported by American Express Company, Primerica Corporation, Bankers Trust Company, J.P. Morgan, Sara Lee Corporation, Ford Motor Company, Shearson Lehman Brothers, Cafritz Foundation, Xerox, and many other funders.

Aetna's "Stepping Up" Program

For further information, write:

Gail Promboin
Assistant Vice President
Aetna Life & Casualty
Corporate Public
Involvement Department
151 Farmington Avenue
Hartford, CT 06156-3180

Concerned about the increasing number of unqualified applicants seeking jobs with their company, Aetna Life & Casualty began "Stepping Up" in 1988 as a company-wide initiative to encourage local partnership with schools, community groups, and other businesses to help disadvantaged young people develop into competent workers. Through a combination of national and local grantmaking, employee volunteerism, training programs, and job opportunities, Aetna's program attempts to reach two goals:

1. To expand and diversify the pool of qualified job applicants Aetna will need in the years ahead.
2. To bridge the employability skills gap — the gap between young people who lack education and work experience and the businesses that urgently need skilled employees.

In "Stepping Up," Aetna's Corporate Public Involvement Department led an interdisciplinary team of corporate and line human resources professionals as well as communications staff. The team worked to expand implementation of the programs and to encourage financial, volunteer, and training support in field locations that address employability issues.

- FOCUS grants (in forty-two field offices) target education and job-skills training, including basic skills improvement programs, in-service teacher training, counseling and social service programs for students, and curriculum enrichment for disadvantaged schools.
- Local grants in the Hartford area support tutorial programs for students working below grade level and school-to-work transition programs to give high school students the job-hunting and job-keeping skills they need to succeed in the workplace.
- Employees can apply for Dollars for Doers grants of up to $500 to meet the needs of organizations for which they volunteer.
- Employment and Training opportunities can be provided to students and schools through office tours, job training partnerships, "job shadowing," after-school and summer jobs. Two specific programs include Saturday Academy, an enrichment program for seventh graders, and Students at Work, a work/study incentive program for at-risk high school juniors and seniors.

Aetna expanded these and other programs to more than ten cities across the nation, with hundreds of participants each year.

Chrysler's World of Work

For further information, write:

Valerie Becker
National Education Program
Administrator
Chrysler Corporation
12000 Chrysler Drive,
CIMS 416-13-22
Highland Park, MI 48288-1919

The Chrysler Corporation World of Work program is designed to help elementary students grasp the relationship between what they are learning in school and how these skills will influence job success in the future. The program teaches attitudes and work habits that will first help them attain academic success and then will become marketable skills for the workplace.

Chrysler's World of Work began at one Detroit, Michigan, elementary school in 1990 and has expanded into eleven additional schools. Each program reflects the specific needs of the individual school but shares a common emphasis on teaching personal responsibility, regular attendance, creativity, and teamwork. Chrysler employee volunteers are encouraged to participate in a number of partnership projects, including one-on-one tutoring; sponsoring after-school programs, such as debate teams, math games, and computer skills; writing with children; reading with small groups; conducting science experiments; and designing computer tracking programs.

World of Work also encourages community groups and parents to participate in school, sponsoring special events and serving as additional volunteers.

Bridges... from school to work

For further information, write:

Mark Donovan
Director
Marriott Foundation for
People with Disabilities
Department 901.10
Marriott Drive
Washington, DC 20058

Also:
Rayna Aylward
Executive Director
Mitsubishi Electric America
Foundation
816 Connecticut Avenue, NW,
Suite 100
Washington, DC 20006

In late 1989 Marriott Foundation for People with Disabilities launched its "Bridges.... from school to work" program in Montgomery County, Maryland. This initiative develops internships in community businesses for high school seniors with disabilities, while providing comprehensive training and support to students and employers alike.

Bridges has two important objectives: to provide students with reality-based work experience that will enhance their employment potential as they prepare to leave school, and to help employers gain access to another important source of employees. Bridges gives students with disabilities the opportunity to learn, grow, and be successful through a program that involves employers, schools, students, and their parents.

With the passage of the Americans with Disabilities Act in 1990, students with special needs should no longer be overlooked by potential employers, but many businesses are not prepared to work effectively with them. Bridges provides a platform to meet the needs and develop the skills of these students and to help employers become better prepared to offer opportunities and to accommodate workers with disabilities.

Since 1989 the Marriott Foundation program has been introduced in Chicago, Illinois, San Francisco, California, and, most recently, in Washington, D.C. The District of Columbia project is being co-funded by Mitsubishi Electric America Foundation, while all Bridges sites receive support from grants from the U.S. Department of Education. The program has served approximately 350 students since its inception and anticipates working with an additional 250–300 in 1992.

Entergy's Programs for High School Counselors and Workplace Literacy

For further information, write:

Paul Kraemer
Education Specialist/
Economic Development
Entergy Services, Inc.
P.O. Box 61000
New Orleans, LA 70161

In 1987 Entergy Corporation and its operating companies — Arkansas Power & Light, Louisiana Power & Light, and Mississippi Power & Light — established the Entergy Counselor Institute to give high school counselors a better understanding of the academic preparation needed by high school graduates to succeed in college and in the workplace. The ten-day graduate course in career counseling was created to help prevent the loss of the area's most promising young people by providing counselors with information about educational and economic potential in the Middle South.

The Entergy Counselor Institute combines professional training with on-site visits to area business and industry. Participants heard presentations by experts on economic development in the three states and visited cultural, business, and industrial sites in Mississippi, Arkansas, and Louisiana. As part of their experience, counselors were given the opportunity to "shadow" business leaders and interact with executives to learn firsthand what employers expect from those entering the work force.

The Counselor Institute is one of several educational programs sponsored by Entergy. In partnership with a variety of area schools, colleges, universities, and educational organizations, Entergy and its operating companies manage three mobile and four stationary computer labs directed at improving workplace literacy in the Mississippi Delta Region. A literacy hot line is used to connect learners with the myriad of volunteer agencies in the three state region. Entergy initiated a math and science institute for high school teachers in 1991 with forty participants, and it sponsors a Stay-in-School Challenge Grant Program to encourage students to finish their schooling.

Security Pacific's Project STEP

For further information, write:

Kris Whyte
Vice President, Community
Affairs Division
Security Pacific Corporation
333 S. Hope Street, H9-61,
Los Angeles, CA 90071

Since 1971 Security Pacific has helped thousands of California students make the transition from school to work through Project STEP (Skills Training Educational Program). The program provides training sites, state-of-the-art equipment, and materials to students in over 110 classes held Saturdays and evenings in more than thirty Security Pacific facilities throughout the state.

Project STEP provides entry-level job skills training to more than 3,000 high school and adult students each year. Trained employees teach such subjects as bank teller training, banking and financial occupations, proof machine operators, bank reconciling, data entry, credit operations, credit counselor, office careers, loan reconciling, and a personal economics module.

The Project STEP Volunteer Teacher Program involves full-time employees who volunteer as resource teachers for high school students who spend two hours a day, Monday through Thursday, for twelve weeks, using and improving their clerical and office skills in the employee's work area. Two or three times each school year, three classes of twenty students each, with their regular classroom teachers (who oversee the program), come into the Security Pacific facilities during the school day.

National Foundation for Teaching Entrepreneurship

For further information, write:

Kevin Greaney
National Foundation for
Teaching Entrepreneurship
to Handicapped and
Disadvantaged Youth, Inc.
64 Fulton Street, Suite 700
New York, NY 10038

The National Foundation for Teaching Entrepreneurship to Handicapped and Disadvantaged Youth, Inc. (NFTE) was founded to bring basic business knowledge and entrepreneurial skills to economically disadvantaged and physically handicapped minority youth living in inner-city urban communities.

The goal of NFTE's programs is to give its target population of young people hands-on entrepreneurial skills with which to turn around their own lives and the economic viability of their neighbrohoods. In the process, NFTE students learn skills and subjects that are of great value, whether they begin their own businesses or are employed by others. In addition to basic math and communication skills, students are taught the importance of business ethics and personal values and learn how to identify and use economic and financial concepts and business opportunities. They learn to write memos and business letters, research potential markets, draw up contracts, open bank accounts, legally register their business, create realistic and concise business plans with which to raise venture capital, and market and advertise their products.

NFTE founder Steve Mariotti has worked in the corporate structure, owned his own small business, and taught business courses in the New York City public school system (including schools in Bedford-Stuyvesant and the South Bronx). As a teacher, he encountered young people whose experiences had taught them to feel inadequate, hostile, and bitter. He also found that when their energy could be harnessed to the challenge and excitement of starting a business, their attitudes and behavior become positive. "Once they learned the skills they needed to become presidents of their own small companies, they switched to a 'can-do' behavior. Small business start-up is not a cure-all, but it can definitely be an important part of the solution to the problems of making these areas viable to live in again," said Marriotti in a recent interview.

As of 1991, NFTE has held training programs in the greater New York metropolitan area, including Riker's Island prison; Newark, New Jersey; and the Ogden Home for Incarcerated Youth (part of the New Jersey penal system). NFTE also holds annual seminars at Columbia University, the University of Pennsylvania's Wharton School of Business, University of California at Berkeley, and the University of Southern California, Los Angeles. NFTE graduates have started over 150 small businesses that have generated some $300,000 in total sales. NFTE is in the process of further expanding its programs into localities around the country.

College Preparation

Fannie Mae's Futures 500 Club

For further information, write:

Lonnie Edmonson
Manager of Community
Relations
Fannie Mae
3900 Wisconsin Avenue, NW
Washington, DC 20016-2899

The Fannie Mae/H. D. Woodson Senior High School Incentive Scholarship Program offers eligible students of Howard D. Woodson High School in far northeast Washington, D.C., an opportunity to earn up to $4,000 plus interest for post-high school education. The Fannie Mae Foundation commits $500 a semester for each student who earns all As and Bs.

As soon as a student receives the initial scholarship credit, he or she becomes a member of the Futures 500 Club and is matched with a Fannie Mae employee mentor. Over 200 volunteer mentors are involved in the Futures 500 program, offering guidance on how to prepare for college and career opportunities. Mentors also encourage their proteges to participate in the cultural, social, and academic enrichment activities organized by program staff.

A variety of workshops are held at Fannie Mae for students, parents, and mentors. They have included such topics as "Securing Financial Aid" and "How to Get Into the College of Your Choice." Computer instruction is offered by members of Fannie Mae's data processing staff. Writing courses and workshops are held under the direction of a professional free-lance writer. In addition, many Fannie Mae employees volunteer evening and weekend hours to tutor students.

As Fannie Mae's guests, Futures 500 Club members and their mentors have been invited to cultural and social events throughout the city. And each summer, Fannie Mae sponsors a paid, six-week internship at the corporation for up to twenty Futures 500 Club students who are in their junior or senior years.

Driving Fannie Mae's commitment to the Futures 500 Club is the company's belief that their encouragement, support, and partnership will help students gain self-confidence and skills to increase their options for a successful future. As director Lonnie Edmonson said, "In the next ten years, two out of every three new jobs will be filled by women and minority candidates. Our goal is to ensure that Woodson High's graduates will be ready to compete for and succeed at those jobs."

After students graduate from Woodson High School and enroll in a university, two- or four-year college, or nonprofit technical school, Fannie Mae's funds are paid out to the school for tuition, books, or room and board. If a student decides to join the military before college, the money will be held in an escrow account for up to ten years.

Fannie Mae initiated the Incentive Scholarship Program in 1988 with a ten-year/$1 million commitment to the students of Woodson Senior High School. An experienced educator and full-time Fannie Mae employee manages the program, counsels students and their mentors, and seeks additional scholarships and financial aid.

Howard D. Woodson Senior High School is committed to academic excellence by providing a viable and comprehensive instructional program. Woodson's School of Business and Finance Program provides a core of academic, finance, and business courses and serves as a magnet school-within-a-school.

GE's College Bound

For further information, write:

Phyllis McGrath
Precollege Program Manager
General Electric Foundation
3135 Easton Turnpike
Fairfield, CT 06431

General Electric began supporting the Manhattan Center for Science and Mathematics in 1983, its first year as an application high school in the New York City public school system. With encouragement and incentives provided by the active involvement of GE employee volunteers and the GE Scholar program, more and more students from the Center began gaining admission to colleges and universities, including Cornell, Harvard, M.I.T., and Brown.

Based on the success of the Manhattan Center for Science and Mathematics, in 1989 the General Electric Foundation announced College Bound, a $20-million program to double the number of college-bound students from other selected poor and inner city schools.

GE selects participating cities in which the corporation has a significant presence, and the superintendent of schools is invited to identify a particular school with poor college-going rates. Key to selection are identifiable preconditions for a turnaround, such as the potential for involvement by parents, students, teachers, school officials, and civic groups. The first schools to join the program were Valley High School in Albuquerque, New Mexico; Aiken High School in Cincinnati, Ohio; Western High School in Louisville, Kentucky; and North Division High School in Milwaukee, Wisconsin.

An essential ingredient of the College Bound program is the participation of volunteers as agents for change. GE employees and others are recruited to serve as mentors, tutors, advisors, and friends to selected schools to help motivate students to aspire to and complete college educations. Among the types of programs GE encourages College Bound schools to undertake are SAT or ACT preparations, Saturday or after-school academies, parenting programs, scholarships, teacher training, college visits, and enrichment programs.

At the Manhattan Center flagship school, every GE Scholar goes on to college, and the score gains from PSAT to SAT among GE Scholars are averaging 172 points. The high schools in the College Bound program can claim similar successes: The college-bound rate at Aiken High School in Cincinnati increased from 24 percent in 1989 to 36 percent in 1991, and at Valley High School in Albuquerque the rate increased from 22 percent in 1988 to 45 percent in 1991. Louisville's Western High School showed the greatest improvement; the college-bound rate rose from 25 percent in 1989 to 60 percent in 1991.

To discover the full extent of the impact the program has had on students in their partner schools, the General Electric Foundation has made a grant to the RAND Corporation to evaluate the first ten College Bound sites.

Higher Ground

For further information, write:

William Bloomfield
Director, Center for
Corporate and Education
Initiatives
Brandeis University,
Heller School
P.O. Box 9100
Waltham, MA 02254-9110

An extension of the Career Beginnings initiative (see description on p. 113), Higher Ground provides ongoing academic mentoring and support services for low-income and minority high school graduates who enter college. For many students, the first in their families to attend college, there is no adult support network to guide them through the decisions and experiences of higher education. Through Higher Ground's summer orientation, students are introduced to campus life, take college level classes, work on campus, and learn how to be successful. The summer activities prepare new college students for the increased academic and social pressures and potential isolation of their lives in college.

During their entire college experience, Higher Ground helps students stay in college and plan careers by offering workshops and activities, tutoring, internships and career-focused work experiences, and by providing a network of faculty, peer, and professional mentors. Special workshops and materials focus on potential academic and social challenges, covering topics as varied as study skills and time management, getting along with a roommate, and career exploration and goal setting. Activities include trips, clubs, guest speakers, and socials.

Begun in the 1990–91 fall semester, Higher Ground now works with over 500 students at seven colleges. Higher Gound is funded by Pew Charitable Trusts and the Ford Foundation and is managed by the Center for Corporate and Education Initiatives at Brandeis University's Heller School.

Hispanic Mother-Daughter Program

For further information, write:

Jo Anne O'Donnell
Program Director
Hispanic Mother-Daughter Program
Arizona State University
Tempe, AZ 85287-0512

In 1984, with partial funding from AT&T Foundation, Arizona State University created the Hispanic Mother-Daughter Program to encourage young Hispanic women to consider higher education opportunities. Students who show potential for success and come from families not equipped to help them excel academically are recommended by their teachers and school administrators; an interview follows, and selected mother-daughter teams are invited to join the program. Eighty percent of the mother-daughter teams invited to join the program have completed it successfully.

During the fall and spring of the eighth grade, the students and their mothers attend thirteen special workshops at ASU designed to demonstrate that college is an achievable goal for Hispanic women. The young girls learn how to match their interests with their skills, what high school courses to take in preparation for college, and what opportunities are available at ASU. They meet university staff and faculty, who serve as role models, and receive guidance not only for academic achievement but also for social and personal growth. In addition, program alumni are hired into the program to act as peer advisors to the eighth graders, and high school girls volunteer to work with the younger students.

Once the students begin high school, they have the continued support of both program and university staff who plan activities for the mother-daughter teams, provide workshops each month at the high schools, monitor the students' academic progress, and support them in coping with personal problems. Special counseling is available to help students identify and apply for scholarships and other financial aids.

Over 500 mother-daughter teams have been or are currently enrolled in the program. One of the indirect benefits to arise from the Hispanic mother-daughter program is that several mothers have also enrolled in college or successfully completed work for their GED.

Cleveland Scholarship Programs

For further information, write:

Christina R. Milano
Executive Director
Cleveland Scholarship Programs, Inc.
2000 East Ninth Street, Suite 1020
Cleveland, OH 44115-1300

Cleveland Scholarship Programs (CSP) was founded in 1967 to enable students from the Greater Cleveland area to finance their higher education. With the support of individuals, corporations, service organizations, and foundations, CSP provides college admission and financial aid advisors to all Cleveland public high schools and to several suburban schools. The program also offers individual college and career counseling, and guidance for nontraditional students who wish to attend college.

Recently, CSP has offered "Brown Bag Seminars" on the college selection process, financial aid opportunities for students, and other topics for employee-parents held during the day at company facilities. Among companies sponsoring the seminars are Centerior Energy Corporation, Eaton Corporation, and LTV Steel Co.

CSP has served over 69,000 students, provided more than $6.8 million in last-dollar grants, and leveraged contributions to total over $100 million in financial aid from federal, state, and institutional sources. The first program of its kind, it has been nationally acclaimed for its effectiveness and serves as a model for communities across the country.

Major corporate and foundation supporters include Cleveland Foundation, George Gund Foundation, John Huntington Fund for Education, Martha Holden Jennings Foundation, Eva Markus Charitable Trust, BP America Inc., TRW Foundation, Thomas H. White Foundation, Alcoa Foundation, and Lincoln Electric Foundation.

Tenneco's Collaborative Activities

For further information, write:

Jo Ann Swinney
Director, Community Affairs
Tenneco Inc.
P.O. Box 2511
Houston, TX 77252-2511

Tenneco Inc. has brought together the University of Houston-Downtown and Jefferson Davis High School in Houston, Texas, in an eight-year commitment to more than 1,400 at-risk students and almost eighty teachers. The collaborative features three components, all designed to encourage students to achieve academically and increase their potential for success in college: the Bridge Program, the Academic Institute, and the Tenneco Presidential Scholarship Program.

1. The Bridge Program offers students a four-week summer session that bridges the transition from middle school to high school, providing enrichment and leadership experiences to motivate and improve students' academic potential and self-esteem.
2. In the summers between academic years, the University of Houston-Downtown runs the Jesse H. Jones Academic Institute. The Institute opens with a four-day conference designed to introduce students to the principles of leadership, goal setting, problem solving, group dynamics, and self-discovery. The Institute then moves students through a series of proficiency and placement tests to determine each student's academic strengths and deficiencies. To become eligible for the scholarship program, students must attend at least two summer Institute sessions at the University of Houston-Downtown campus, where they attend four-week intensive programs in biology, chemistry, physics, and mathematics. In addition to helping students with their current high school work, the summer sessions prepare them for college entrance examinations and enable them to perform better in college classes.
3. In 1989 Tenneco established the Tenneco Presidential Scholarships, a blanket scholarship program for every ninth grade student at Jefferson Davis High School who graduates from high school, fulfills academic requirements, stays on a course of self-improvement, and is accepted into an accredited, degree-granting college or university. The scholarships will be worth a maximum of $1,000 per academic year (up to $4,000), renewable if the student maintains a C average, provides a grade transcript and verification of readmission to college for the following year. The funds can be used for tuition, books, on-campus room and board, and other related school or course fees.

Many organizations are involved in making the activities of the collaborative successful. The Houston Endowment joins Tenneco in providing funds to help develop the summer educational program. A grant from Pew Charitable Trusts to the University of Houston is used to enhance the success of the collaborative program by supporting the development of a recruitment, retention, and assessment infrastructure at the University. And the Houston Independent School District provides summer transportation for students and teachers.

In addition, Communities in Schools, a full-time, student-oriented, in-school social service agency that works on the Jefferson Davis campus, helps young people deal with the problems that drive them to drop out of school. Both Tenneco and CIS operate the Summer Job Training Program, which provides summer employment for students who successfully complete the Academic Institute.

Prep for Prep and A Better Chance

For further information about Prep for Prep, write:

Gary Simons
Executive Director
Prep for Prep
163 W. 91st Street
New York, NY 10024

For further information about A Better Chance, write:

Charles K. Gleason
Vice President for
Administration and
Development
A Better Chance
419 Boylston Street
Boston, MA 02116

The prep school experience is one many of the nation's leaders share and one even highly qualified minority students are usually denied. Both Prep for Prep and A Better Chance work with public high school teachers and counselors to identify highly motivated and intellectually gifted minority students and help them gain access to college preparatory educations at independent and public schools.

Prep for Prep, begun in 1978 to work in the New York City area, provides a bridge between public and private schools, recruiting fifth grade candidates and preparing them both academically and socially to enter seventh grade in a prep school education. There are five elements to the Prep for Prep program:

1. **Talent Search.** With the help of school counselors and teachers, Prep for Prep identifies youngsters from minority backgrounds who are intellectually gifted, academically oriented, and self-motivated.
2. **Fourteen-Month Preparatory Program.** Students attend two seven-week summer sessions, before and after sixth grade, as well as after-school classes on Wednesdays and all-day Saturday classes throughout the sixth grade school year. Classwork addresses the need to remediate and refine skills, while presenting content that is sophisticated and advanced.
3. **Student Placement.** Prep students and their parents participate in a series of school visits and individual conferences to share in the decision of selecting an appropriate independent school.
4. **Ongoing Counseling and Activities.** While Prep for Prep helps students sustain the close friendships they made during the preparatory component, it also helps them involve themselves fully in the life of their new school communities. Prep counselors work with students individually, visiting them at school and meeting with their teachers and parents.
5. **Leadership Development Component.** Eleventh and twelfth grade Prep students are encouraged to focus on their goals for college and life. College counseling, committee assignments, publication of a student newspaper, assisting students to secure worthwhile summer jobs, career development seminars, and a Mentors Project involving successful minority-professionals are all part of the Leadership Development Component.

During its thirteen years in operation, Prep for Prep has enrolled over 900 students in the eight-year program. About 200 Prep alumni have graduated from independent schools and are now enrolled at many of the nation's leading colleges.

Prep for Prep is funded through grants from many corporations and foundations, including American Express Company, Booth Ferris Foundation, Chase Manhattan Bank, Citibank, Coca-Cola Foundation, Dewitt Wallace-Reader's Digest Fund, Edward John Noble Foundation, Ernst & Young, Equitable Life Assurance Society, Ronald McDonald Children's Charities, Mattel, Inc., Merrill Lynch & Co. Foundation, Inc., J.P. Morgan & Company Incorporated, New York Times Company Foundation, Inc., Schering-Plough Corporation, and Time Warner Inc.

A Better Chance, Inc. (ABC), established in 1963, is the oldest and only nationwide academic talent search agency for minority youth. ABC seeks out talented and motivated minority students from all economic levels and every part of the country, and provides them with access to excellent college preparatory educations.

Founded by the heads of twenty-three Northeastern schools, ABC has grown to a membership of 160 independent and public schools in twenty-five states. In addition, the Affiliated Colleges program includes some seventy-five selective higher education institutions that are committed to both academic excellence and increased minority enrollment. Each year, some 1,100 ABC students are enrolled in ABC member schools. Alumni now total more than 7,300. Nine out of ten graduate from college and many pursue graduate studies as well. ABC alumni are leaders in business, the professions, education, government, and their home communities.

Although ABC operated only in prestigious independent preparatory schools when it began, within a few years it had developed a Public School Program to expand the number of high-quality college preparatory placements available to minority students.

Each ABC Public School Program is a community-based effort which benefits college bound minority young people from educationally disadvantaged areas. In essence, the local community establishes its own educational institution — a boarding school that uses the resources of the public high school and is supported by the dedication and expertise of local citizens. Students admitted to a Public School Program attend the local high school and, like students in an independent boarding school, live in a residential situation for the academic years remaining in their secondary education. An average of ten students live in the house and are supervised by Resident Directors, usually teachers, other professionals, or couples whose children are grown. Resident Tutors, usually college or graduate school students, conduct mandatory three-hour study sessions each school night, provide academic assistance and personal counseling, and assist the directors with the day-to-day running of the house.

The twenty-three communities presently hosting the ABC Public School Programs have superior school systems, the generosity to support an average annual budget of over $40,000, a desire to encourage diversity in the town and the school, and a strong sense of civic support for such a project. Communities with Public School Programs include New Canaan, Connecticut; Radnor, Pennsylvania; and Edina, Minnesota.

More recently, ABC has developed programs that provide minority high school students with preparation for initial employment and with alternative pathways to college. In addition, ABC offers access to enrichment programs in such fields as academic and leadership skills, introduction to business careers, outdoor living, and study and residence abroad.

A number of corporations and private foundations provide major support for A Better Chance, including American Express, ARCO Foundation, AT&T Foundation, BP America, Inc., Bristol-Myers Squibb Foundation, Inc., Capital Cities/ABC Foundation, Chase Manhattan Corporation, CIGNA Foundation, Coca-Cola Foundation, Geraldine R. Dodge Foundation, IBM Corporation, Johnson & Johnson Family of Companies, McGraw-Hill Foundation, Inc., Merrill Lynch & Co. Foundation, Inc., Morgan Guaranty Trust Company of New York Charitable Trust, New York Times Company Foundation, PepsiCo, Inc., RJR/Nabisco Foundation, Starr Foundation, DeWitt Wallace-Reader's Digest Fund, Allied-Signal Foundation Inc., Tandy Corporation, Siemens Corporation, Dun & Bradstreet Corporation, and 3M Foundation.

> To get education back on track, our whole society sooner or later will have to participate. Business's role is to act as a catalyst.
>
> *James Renier, CEO, Honeywell*

Chapter 6

Working through Business/Education Coalitions

Introduction

In the early 1980s, groups of corporate leaders addressed education issues through state and local business roundtables, private industry councils, and chambers of commerce. Concerned with the quality of education provided by public schools in their states, they issued reports recommending education reform agendas and, in some cases, helped governors pass reform legislation (with accompanying budget allocations). Many business organizations entered into "contracts" with local school districts, promising jobs to recent graduates if the district, in turn, would assure that those graduates met higher academic standards. Generally speaking, business leaders worked with policymakers to understand educational problems in the state or community, to provide incentives and advice, and to give direction to legislated reforms imposed on the state and local education systems.

The call for higher standards, even with accompanying incentives for schools, teachers, and students to meet those standards, has not led to better schools. However, these early business-sponsored contracts with school districts have been instrumental in bringing education reform issues to the forefront in many communities and have helped identify what is needed for enduring, successful education reform. From their experiences in individual school partnerships and district-wide contracts, business and community leaders recognize several prerequisites to the kind of school-based change necessary for changing teaching and learning practices in every classroom.

- The general public must become aware of the need for education reform and support reform activities.
- There must be systemic change at both the local and state levels to support school-based reform.
- Educational policy, at state and national levels, must be reformed to provide a context for changes in teaching and learning at the school site.
- Teacher education programs must be restructured to provide appropriate preparation for teaching in restructured schools.

There is sometimes a tendency to believe that by getting these prerequisites in place the education system will change so dramatically that individual schools will be reformed. Other reformers, on the other hand, argue that "real educational reform" will happen only on a school-by-school basis working from the bottom up. In reality, we must begin to link the bottom with the top to transform teaching and learning by working at the individual school site as well as by creating the infrastructure to support the reforms. School-based system change is a long-term response to the need to reform the schools. Instead of abiding (or not) by new educational regulations and reforms imposed from the capitol, restructuring schools are redefining their own mission, developing measurable strategies to implement that mission, and changing roles and responsibilities to make the implementation process possible.

The role of business in education reform is shifting as well. In addition to supporting local school partnerships and sponsoring programs and projects in the schools, many companies are joining educators and community members to form new alliances that provide broad-based political support for long-term comprehensive change. In addition to bringing union leaders, school board officials, superintendents, and teachers together, educators find they need to develop a network of support with influential members of the community from business, foundations, universities, and advocacy groups. In many states and communities, members of the exclusive clubs of business leaders have joined members of the equally exclusive clubs of educational leaders to form joint business/education coalitions.

These coalitions do not actually "do" the restructuring; they support, *at a policy level*, schools and districts undertaking a major reform effort. Robert G. Schwartz, chairman, president, and CEO of Metropolitan Life Insurance Company, warns that "the challenge for the private sector is to become engaged as an informed participant, while avoiding the pitfalls that would snare an interloper. It is to bring to bear the strengths of a corporation: management and organizational skills, human and financial resources, and influence in the public realm." The effectiveness of business/education coalitions rests on their ability to direct the unique qualities of each organization toward the implementation of a shared commitment to providing a high quality education for all students.

Overview of Program Descriptions

Observations

Many companies that wish to support restructuring changes within local school districts are frustrated by what they perceive as resistance or even opposition on the part of school leaders to school-based system change. It is not possible for those outside the education system to effect real change within the system, but through communitywide coalitions they can help establish an environment in which such change is possible by bringing people together who can, among themselves, create a demand for reform and develop a strategy for restructuring.

In several communities and states, business/education coalitions are moving from the planning to the implementation stages of support for school- based system change. Several key observations can be made from their experiences about the process of creating the necessary conditions to generate and maintain education reform.

1. A business-led coalition often plays a critical role as principal instigator of community-wide discussions on educational issues. By inviting students, teachers, educators, parents, and citizens to a series of open forums or town meetings, business and community leaders can promote wide-ranging dialogue about problems facing teachers and students, the needs of school and districts, and the community's educational vision for its children.
2. Once the community at large has identified its concerns and hopes, members of the business-education coalition can host a series of meetings for educators (and others interested in education) with a number of national educational leaders to discuss innovative strategies for reform.
3. The coalition can provide incentives for school district leaders to direct and encourage school-based "vision setting" — the establishment by each school of its educational mission within the context of the district's academic goals.
4. Corporate partners, working with individual schools, can work closely with school-based task forces to help develop effective strategies to implement the school mission.

5. The business-education coalition can develop a support network, or infrastructure, to help the schools and districts maintain their efforts at school-based system change.

By working together in a coalition, disparate groups pool and leverage their talents and resources to achieve common goals. As a coalition, they can offer political support to education leaders making substantial changes in school practices, and they can help maintain strong communication links between schools and districts and the community at large. Above all, a coalition can play a strong advocacy role in the community and the state on behalf of systemic educational reform, combining the clout and credibility of individual members as a force for change.

Future Directions

Working for change through broad-based coalitions is not without its problems, of course. The process of trying to reach consensus on difficult and often politically dangerous issues can be time-consuming and disheartening. Many communities and states have already encountered setbacks that could be avoided with careful planning and vigilance. For example, because members of the coalition represent the major constituencies in the community, they may sometimes feel pressed to focus their energy on special interests, to the possible detriment of larger educational improvement issues. If communication networks break down as reforms get underway, certain groups may not be informed of progress or changes and their support for the activities may weaken. Finally, the pronouncements made by communitywide coalitions usually receive extensive local media coverage, and constituents may get impatient if change does not occur quickly.

As governors and state chief school officers develop state-wide strategies to link with the national America 2000 initiative, they find ready support from already-existing and newly-formed coalitions. In many cases, these coalitions can help bring the parallel strands of education reform together, linking school-based restructuring with education policy reform to establish an agenda that promotes long-term systemic change. They can develop strategies for scaling up or expanding promising restructuring experiments; they can identify ways in which schools and districts can institutionalize change so that it remains in place over the long term; they can promote greater involvement of higher education in addressing the needs of the elementary and secondary schools; and they can help keep the community focused on the broader context of family and health care issues within which education resides.

Some of the programs described in this chapter are familiar stories. The Prichard Committee's role coordinating education reform in Kentucky, South Carolina's education reform initiative, and the Rochester (New York) Experiment, all of which appeared in the first edition of *Business and the Schools*, are much-cited examples of promising coalitions working to change school systems and to change state education policy. Other, newer examples show how coalitions are beginning to direct change in their communities or states, and some descriptions illustrate how groups have redefined or expanded their roles in promoting education reform through stronger coalitions within the community. Among questions to consider when reviewing these descriptions are the following: How broad-based is community, business, and educational representation in the coalition? How is the education reform agenda established, and how is community-wide support gained and maintained? What kinds of strategies for achieving goals are developed? How will success be measured?

None of the examples below reveals a perfect picture, where everything proceeds without a hitch. But they provide important lessons in how a community and/or state can work toward creating, implementing, and sustaining real change in education.

The Partnership for Kentucky School Reform

For further information, write:

Robert F. Sexton
Executive Director
The Prichard Committee for
Academic Excellence
P.O. Box 1658
Lexington, KY 40592

When the Kentucky Supreme Court ruled that Kentucky's entire school system was unconstitutional, the General Assembly began the difficult task of recreating a system of public education for the state. The resulting 1990 Kentucky Education Reform Act (KERA) radically restructured the schools. It guaranteed a level of funding per student and established a way for districts to equalize financing. School-based management was instituted at each school, major curriculum changes were introduced, and an entirely new primary school program was created. Every four-year old Kentuckian was required to attend preschool; family resource centers and youth services centers were to be developed in poor areas. In addition, a strict system of accountability was initiated with appropriate rewards and restrictions. This significant and complex piece of legislation provides a vision for improving education in Kentucky that, if implemented, will completely change the quality of teaching and learning in the state.

The Partnership for Kentucky School Reform was created to make this vision of reform a reality through successful implementation. Believing that all citizens must understand the Act and its importance to them for KERA to succeed, the Business Roundtable made a ten-year commitment to begin the implementation of the new reforms through the Partnership, a non-partisan coalition of more than fifty public and private leaders representing business, civic, governmental, and educational organizations. The three goals of the Partnership are to:

1. Promote public understanding and support for the ten-year implementation of the provisions and goals of the Kentucky Education Reform Act.
2. Provide an on-going non-partisan forum for the identification and resolution of problems and concerns.
3. Serve as a vehicle for securing technical assistance and expertise to facilitate the successful implementation of school reform.

United Parcel Service, Inc., Humana, Inc., and Ashland Oil, Inc. — and their chief executives — are providing leadership to the Partnership on behalf of the Business Roundtable, and the companies have pledged significant funds over the coming three years to get Partnership activities under way. The Prichard Committee for Academic Excellence, an organization of citizen volunteers from all across Kentucky whose common interest is improving education, will coordinate the Partnership's endeavors.

Selecting the Prichard Committee to oversee the Partnership promises to be a wise decision. When the Prichard Committee was founded in 1983 by the late Edward F. Prichard, Jr., its primary goal was to encourage the state legislature and governor to implement educational reform measures in Kentucky. To stimulate interest in the quality of education and generate grass-roots support for reform, the Committee held a statewide series of town forums addressing the question, "What do you want your schools to do?" Through publications, speeches, and volunteer activities, the Committee seeks to keep citizens involved in education issues.

In early 1991 the Prichard Committee received major grants from Carnegie Corporation of New York, J. Graham Brown Foundation, and Annie E. Casey Foundation to support its six-year campaign to help implement the KERA. The Committee will organize local volunteers across the state, inform the public about the law, monitor progress, evaluate results, and report to the taxpayers and voters. Other funders include Toyota Motor Manufacturing, Ashland Oil, First Kentucky National Bank, Liberty National Bank, Knight Foundation, and BellSouth Foundation.

South Carolina's Education Reform Initiatives

For further information, write:

Terry K. Peterson
Executive Director
South Carolina Business-
Education Subcommittee
1122 Lady Street, Room 1005
Columbia, SC 29201

The South Carolina business community played a central role in drafting and selling the landmark 1984 Educational Improvement Act (EIA), and it continues to play a significant role in maintaining the state's commitment to education reform.

In 1983 Governor Richard Riley established two blue-ribbon committees made up of corporate and education leaders, state legislators, and the state superintendent of schools. This committee identified broad goals to improve the quality of education in South Carolina which were then taken to the public at large for their input. The governor, local business leaders, state officials, and a local "teacher of the year" held a series of Forums on Excellence in Education across the state (involving 13,000 people) to present the goals and to discuss, in small groups, ways to achieve the goals. The recommendations made by citizens at these meetings were incorporated into the committee report.

The Education Improvement Act (EIA), based on recommendations of the two committees and suggestions made by the citizenry, called for a 30 percent jump in the school budget and a one cent sales tax increase to finance it. With the additional revenue, South Carolina schools were expected to establish higher academic standards for every grade, do a better job teaching basic skills, provide better teacher training and compensation and better training of administrators, and create a performance-driven method for evaluating and rewarding schools and districts.

Just as they worked to draft the education reform initiative, business leaders were vital in selling it to the people and to the legislature. Through business organizations and individually, they publicly endorsed the EIA, made speeches around the state under the auspices of the Governor's Speakers' Bureau, funded a $100,000 advertising campaign encouraging voters to contact their legislators in favor of the EIA, funded a public-opinion survey, and met with reluctant lawmakers and persuaded them that good education meant good economic prospects for the state.

By the end of 1990 the sixty-one initiatives of the EIA were fully implemented, and annual assessments, "What Is the Penny Buying for South Carolina?", revealed substantial changes in the public schools. Among other improvements,

- South Carolina's scores on the SAT increased a total of forty points, the highest gain in the nation;
- enrollments of South Carolina students in advanced placement courses have increased 350 percent, twice the national rate;
- the percentage of high school graduates going to college has increased 6.2 percent since 1983, and more students are passing freshman college course work;
- the percentage of high school students passing the Exit Exam (including a written composition) for graduation has improved by 20 percent; and
- 6,000 businesses are reported to be officially involved in business/school partnerships, a 600 percent increase since South Carolina began its reform efforts in 1983.

But, as was noted in a recent report on South Carolina's education initiatives, "The enormous effort of passing and funding reform often masks the even greater difficulty of implementing the reforms and sustaining the momentum once they are passed, particularly if the reforms are innovative."[1] To assure a constant focus on education reform and to provide oversight of the implementation of the reforms, two permanent committees were mandated: a Business-Education Subcommittee of the Education Improvement Act and Target 2000, primarily composed of business, citizen, and education leaders; and a joint legislative committee, the Select Committee.

---

[1] *Sustained Business Involvement in State School Reform: The South Carolina Story*, by Terry K. Peterson. (Washington, DC: Institute for Educational Leadership, 1989).

The South Carolina business community has worked hard to make sure that the education reforms retain their integrity and are being implemented. In 1989 it backed the second stage of reform in the state with the Target 2000 legislation, and in 1991 the education/business/legislative coalition that pushed through the initial reforms thwarted attempts to divert the use of EIA money from funding education reforms to paying regular education expenses.

Among the South Carolina companies that have been actively involved in supporting school reform initiatives are C&S National Bank of South Carolina, Nationsbank, The Keenan Co., McNair Law Firm, Montez Real Estate, SCANA and Subsidiaries, Springs Industries, Inc., Insignia Financial Group, Inc., Bowater Carolina, Nelson, Mullins, Riley & Scarborough, Bojangles-South Carolina, and Liberty Life.

Public School Forum of North Carolina

For additional information, write:

John N. Dornan
President
Public School Forum of
North Carolina
400 Oberlin Road, Suite 220
Raleigh, NC 27605

Founded in 1986 to help dramatically strengthen North Carolina schools, the Public School Forum of North Carolina grew out of an effort by members of the state General Assembly to bring together frequently-clashing educational groups in an attempt to reach consensus around issues having an impact on young people and schools in North Carolina. The Z. Smith Reynolds Foundation, and nearly twenty of North Carolina's largest corporations, provided the necessary financial support to create a blue ribbon commission for education. At its first meeting, the Board of Directors established four far-reaching goals that would guide the Forum's work to improve education in the state:

- To establish programs and policies that would attract and retain talented professionals in the field of education.
- To create consensus on educational policy proposals among business, political, and educational leaders.
- To create an organizational bridge between business and educational leaders working to foster true partnership.
- To become a credible, nonpartisan source of information and research on education.

One of the earliest issues the Forum addressed was the lack of highly qualified and skilled young people entering the teaching profession. North Carolina was faced with a 40 percent decline in the number of students choosing education as a major and the fact that two-thirds of the state's education majors had been drawn from the lowest academic one-third of entering freshman classes. In response to this problem, the Forum issued a report, "Who Will Teach Our Children?", which contained its first policy recommendations, many of which then served as the basis for the North Carolina Teacher Enhancement Act of 1986. This act created the Teaching Fellows Program (providing $20,000 scholarship-loans to 400 high school graduates in exchange for their commitment to "repay" through at least four years of public school teaching in the state), the Office of Teacher Recruitment in the State Department of Public Instruction, and High School Recruiters (which placed paid teacher recruiters in each of North Carolina's 330 high schools).

Based on its research on the conditions that inhibit the retention of qualified teachers in the schools, the Forum began working with three counties to design what would become the nation's first state-funded experiment with lead teachers and school restructuring. In 1986–87 the three-year Lead Teacher/Restructured School Pilot Project was launched to experiment with accountability, deregulation, differentiated staffing patterns, and performance pay. The pilot projects paved the way for a statewide initiative, marked by the passage of the North Carolina School

Improvement and Accountability Act of 1989 (Senate Bill 2), to "rethink" the educational process and experiment with different teaching and learning practices. The primary assumption underlying Senate Bill 2 is the belief that the effectiveness of schools should be measured only by student performance, and not by compliance with rules. Implicit in that assumption is the belief that educators should be freed to use strategies that best fit their unique local situation.

The Forum has been engaged in developing a number of other public policy initiatives, including "All That's Within Them," a Rural Initiative which examines the unique problems of small and rural schools. In 1989 the Forum established the School/Business Partnership clearinghouse to support the creation of local partnership organizations, and in 1990 received federal funding for the Southeastern Region Vision for Education, a decentralized regional educational research laboratory serving North and South Carolina, Georgia, Alabama, Mississippi, and Florida.

Special grants have helped the Forum launch programs targeting a number of issues critical to school improvement. With funding from the BellSouth Foundation, the Forum developed Managing for Results, a management training program for school administrators who must provide the leadership for school restructuring. A grant from the Kenan Foundation helped establish the annual "Discovery" trips to introduce Teaching Fellows to North Carolina's culture, economy, and schools. The A.J. Fletcher Foundation provided support for developing parent training material that helps parents build the self-confidence of their children.

Many corporations and foundations support the work of the Public School Forum, including AT&T, Burlington Industries, Incorporated, Burroughs Wellcome Company, Carolina Power & Light Company, Ciba-Geigy Corporation, Cone Mills Corporation, Duke Power Company, First Union Corporation, General Electric Company, Glaxo, Incorporated, GTE South, Hoechst-Celanese Corporation, IBM Corporation, Jefferson Pilot Corporation, NCNB Corporation, Southern Bell, Wachovia Bank & Trust Company, and Westinghouse Electric Corporation.

The Rochester Experiment

For further information, write:

Executive Director
Rochester Brainpower
930 East Avenue
Rochester, NY 14607

The Rochester, New York, school reform initiative began in 1985 when the Urban League of Rochester celebrated its 20th anniversary. Instead of planning a year of special events, the Urban League decided to focus community attention on the educational problems of the public schools — especially on the high dropout rate and poor academic achievement among low-income minority children.

As its first step in generating grass-roots support for fundamental change, the Urban League hosted a series of "Speak Outs," where students, teachers, parents, and community leaders could discuss the problems in the schools and suggest solutions. Soon education began to be viewed as a community priority, and the University of Rochester hosted a half-day conference for business and community leaders, teachers, parents, and school officials to determine specific steps to bring about change.

In October, with twelve neighborhood organizations, the Urban League held a number of more formal town meetings centered on two topics: how to improve student achievement, and how to increase parental involvement in education. Out of these meetings, two task forces were set up: a twenty-five-member community panel to establish ways the community could focus on solutions, and a business/education task force to examine business/school initiatives across the country.

The recommendations of both task forces were combined in the first "Call to Action" report issued in March 1986 by the Urban League and Rochester's Center for Educational Development (CED). It included specific actions each segment of the community must take to improve the public schools. CED accepted responsibility for monitoring the program, making frequent reports to the community, and coordinating efforts. Activities to support educational reform were addressed to every sector of the community — business, the media, human service agencies, the arts community, religious organizations, social clubs, funding organizations, and so forth. The business community created the Rochester Brainpower program to coordinate business involvement with the schools through partnerships, consultations, publicity, communications, and awards programs.

The focus of the Rochester experiment is the school system, and in 1987 the teachers' union and district administrators fashioned a reform strategy based on major changes at the school site and at the district level:

- **Higher pay scales and career advancement possibilities.** The initial agreement was to raise teacher pay an average of 40 percent over three years, with veteran teachers who serve as "lead teachers" earning as much as $70,000. The high pay scale came with concomitant responsibilities and changes. Teachers agreed to work longer hours and to give up automatic pay increases based on seniority and extra education. Instead of using seniority for automatic transfers from school to school, they agreed that school-based management teams could approve teacher transfers based on suitability and school need. And they agreed, in theory, to performance-based pay increases.
- **School-based management teams.** These teams of teachers, parents, and school administrators meet regularly to assess needs, set goals, develop strategies to meet goals, make decisions on resources and budgets, assign staff, develop curricula, and schedule classes. Rochester Brainpower, a business and social services agency formed to support the school reforms, has developed several programs to help the school-based management teams by offering training programs at the Teacher Center, providing loaned executives who help develop assessment and personnel strategies, and maintaining corporate involvement in the District Strategy Planning task force.
- **Home Base Guidance program.** Middle school and high school teachers agreed to mentor twenty students a year, keeping track of their course work, talking over problems, checking attendance, counseling (about course schedules, college choices, and careers), helping with summer and part-time jobs, and finding ways to involve families in school activities.

Many positive changes have occurred in the four years given to the Rochester Experiment, and a number of promising classroom innovations have become routine as teachers gain more control over their curricula and courses. The district has created five new middle schools (grades six through eight) implementing key recommendations of the Carnegie report on adolescent development, *Turning Points: Preparing American Youth for the 21st Century*. And the continued strong involvement of community organizations and companies has led to the formation of the Brainpower Learning Alliance, a formal coalition of business (through Rochester Brainpower), the School and Business Alliance (SABA), the Center for Educational Development, Effective Parenting Information for Children, and Junior Achievement.

In a recent review of the Rochester experiment, Rochester Teachers Association President Adam Urbanski details several signs of improvement in the public schools; among them are the following:[2]

- The percentage of students promoted at the elementary level has increased at each grade (93 percent at the end of 1988–89).

---

[2] "'Real Change Is Real Hard': Lessons Learned in Rochester," *Education Week* (October 23, 1991), 29.

- More students are enrolled in state Board of Regents courses. Among ninth graders, the proportion went from 41 percent in 1986–87 to 55 percent in 1988–89.
- There is a higher percentage of African American and Hispanic students in mathematics classes, now matching the ethnic distribution of the school district.
- More students are graduating and going to college, from 43 percent in 1989 to 52 percent in 1990–91.

The 1990–91 school year brought strains to the reform experiment, however, as the teachers' union and school board struggled over contract disputes. Teachers rejected proposals to link pay increases to performance, and the school board and parent groups required some accountability measures to justify high teacher salaries. The racial imbalance of classes dominated by minority students and taught by white teachers has led many parents to feel additional skepticism about the quality of educational reforms. In the midst of these difficulties, supporting business and community organizations were not kept well informed of school reform progress and, as a consequence, were not always supportive of district activities.

Under national scrutiny as a model of district-wide restructuring, the Rochester Experiment struggles to reach its educational goals while developing strategies to meet the changing needs of students, teachers, schools, and parents. In addition to business and community organizations supporting the reforms, the National Center on Education and the Economy is working with the school district to help implement and evaluate the reform process. Support of Rochester's education reforms comes from many local corporations, businesses, and organizations, including Eastman Kodak Company, Executone Telecommunication Inc., Marine Midland Bank, Rochester Products Division-General Motors Corporation, Altier's Shoes, Roberts Communications Inc., Citibank, Rochester Gas and Electric, Wegmans Food & Pharmacy, Xerox Corporation, the Winters Group, Greater Rochester Metro Chamber of Commerce, Industrial Management Council, and the Advertising Council of Rochester.

Greater Milwaukee Education Trust

For further information, write:

Director, Education
Partnership Program
Greater Milwaukee
Education Trust
756 N. Milwaukee Street
Milwaukee, WI 53202

The Greater Milwaukee Education Trust was formed in 1989 as a nonprofit collaborative of business, education, civic, and community leaders focused on mobilizing and increasing community awareness, commitment, and involvement for improved student achievement. The Trust was developed by influential members of the Greater Milwaukee Committee, the Metropolitan Milwaukee Association of Commerce, and the Milwaukee Public Schools who, with other corporate and community sponsors, understood the difficult and long-term task of restructuring a public school system. Restructuring is an incremental process driven by trust, a sense of urgency, a willingness to move from rhetoric toward informed action, perseverance, and organizational structure. These leaders believed that, to sustain such an effort, an organization independent of either the school system or business associations could serve effectively as a link between the two worlds.

The Greater Milwaukee Education Trust was built on a foundation of business/education cooperation in the community (the first school/business partnerships were formed in 1978). In response to the Governor's 1983 Study Commission on Quality Education in Milwaukee, the Greater Milwaukee Committee formed an Education Committee. Members of the Committee visited schools and classrooms, talked with educators about perceived problems, and encouraged the implementation of policy changes necessary to improve the public school system. Three general beliefs served to undergird this effort:

1. Milwaukee's economic renaissance could not be sustained without a competent labor force, and a competent labor force could not be created without a quality education system.
2. Business has a responsibility to help improve education outcomes and cannot remain removed from social issues. Both large and small companies would benefit by an improved education system.
3. Business can define an appropriate role in education reform. It can advocate quality schools; offer specific help in areas of expertise (strategic planning, employee training and re-tooling, effective communication systems, personnel and human resource development, organizational/management issues); and it can improve its own school/business partnerships by moving beyond guest speakers and occasional field trips toward meeting specific needs of schools as defined by the schools.

As business and school district leaders worked on formulating and instigating necessary policies to produce agreed upon systemic change, teachers and students were encouraged through incentives and training to implement programs emerging from the policies. Because of the number and variety of programs taking shape, it became apparent that there needed to be some consolidation of the many programs and other types of community involvement in the schools.

The Greater Milwaukee Education Trust was thus formed, to serve as a catalyst for increased public/private sector involvement and support for public education, to promote quality within the school system through systemic and school-based change, to broker community resources to provide focused support for improved student results, and to act as a clearinghouse on effective programs. In addition, the Trust hosts conferences and administers several programs including an education partnership program, teacher award and recognition programs, an Empowerment Project designed to increase parental involvement, and Management Partners Programs for schools undertaking school-based management.

The Trust is already enhancing its role as advocate. Not content simply to increase the number of partnerships between schools and business or community groups, the Trust helps existing partnerships mature through effective strategies directed toward helping schools restructure and encourages new partnerships to begin with an "outcomes orientation" that will direct activities toward school-based system change.

Among the corporate partners of the Greater Milwaukee Education Trust are Ameritech Foundation, A.O. Smith Corporation, Banc One Wisconsin Group, Edna McConnell Clark Foundation, First Bank Milwaukee, Glenn & Gertrude Humphrey Foundation, Harley-Davidson Motor Company, Jane & Lloyd Pettit Foundation, Johnson Controls, Milwaukee Foundation, Metropolitan Milwaukee Association of Commerce, MGIC, Northwestern Mutual Life Insurance Co., WICOR Foundation, Wisconsin Bell, Wisconsin Electric, Wisconsin Energy Corporation.

The Coalition for Educational Excellence by 2000 in New Orleans

For further information, write:

Sally U. Hays
Director
Business Task Force on
Education, Inc.
301 Camp Street
New Orleans, LA 70130

In 1987 business and civic leaders, including representatives from the Business Task Force on Education, the Metropolitan Area Committee Education Fund, and the Urban League, joined the president of the Orleans Parish School Board, the Superintendent of Schools, and the president of the United Teachers of New Orleans to form the Coalition for Educational Excellence by 2000 (CO-ED 2000) to create conditions within the school system that would ensure that the New Orleans Public Schools would become the most improved urban school system in the country.

CO-ED 2000 retained an education consultant to help them, through a process of analysis and consensus-building, to identify the key problems that must be addressed in order for the New Orleans Public Schools to be successful and to develop a strategy for addressing these problems. By providing a framework for understanding education reform issues and local conditions, the consultant guided the evaluation process, identifying several barriers to achieving school-based system change:

- The structure of school systems is oriented to maintenance (keeping things from getting worse) rather than toward development (searching and experimenting with ways to make things better).
- A high level of frustration exists within the system and the community because the schools have not successfully educated all their students well. This frustration has led groups to assign blame for the problems to other groups, creating divisions among those who need to work together to create solutions.
- The way in which the district establishes policies and priorities is unnecessarily complicated and politicized, which makes it difficult to develop a clear sense of direction and a clear articulation of priorities.
- Many community leaders and educators are uninformed or misinformed about education issues generally and the impact of education on the economic welfare of the community.

From this assessment, the CO-ED 2000 Planning Team worked with the consultant to recommend a three-part action strategy designed to (1) increase community understanding of the importance of public education and the critical issues related to effective delivery of education services; (2) develop a broad-based community vision for the New Orleans Public Schools; and (3) develop the internal capacity of the school system to create and implement focused strategies for development, improvement, and school restructuring through the identification, development, and support of school leaders.

Central to the implementation of this strategy is the creation of a separate organization, working under contract with the school board and in cooperation with the school system, that would give direction and focus to the district's restructuring agenda. The board of directors of the new organization would include a school board member, the superintendent, the president of the teachers' union, and representatives of private sector funders. A primary responsibility of this organization will be to ensure the availability of training for people at every level of the school system — teachers and principals, as well as school board members — to foster innovative and effective leadership throughout the system. Once established, all district training and development activity would be run through this center with the goal of creating an environment where school leaders and personnel develop the capacity to initiate and sustain positive change.

CO-ED 2000 is in the very early stages of a seven-year system-change project. Phase I, the assessment and recommendation phase, was funded through special grants totaling $100,000 from the Business Council of New Orleans and the River Region, Reily Foundation, and the First National Bank of Commerce. Phase II, the implementation of the recommended strategies, will require an estimated $500,000 a year from the private sector and the commitment of school district leaders to support the change process. The pieces are being put in place for a redesigned education system in the New Orleans public schools, but the hard work of improving an inadequate urban school system is still ahead.

Cleveland Initiative for Education

For further information, write:

Carol Gibson
Executive Director
Cleveland Initiative for
Education
2000 E. 9th Street
Transohio Tower, Suite 825
Cleveland, OH 44115

Also:

Barbara H. Patterson
Executive Director
Cleveland Education Fund
1456 Hanna Building
Cleveland, OH 44115

In 1988 a task force of the Greater Cleveland Roundtable's Education Committee, working closely with the superintendent of the Cleveland public schools, agreed to raise funds to implement three program components to support student academic achievement and inspire them to believe in their own future:

1. In the **Scholarship-in-Escrow** program, students can earn money for grades of "C" or better in five academic areas: mathematics, science, English, social sciences, and foreign language. The money goes into a scholarship escrow account for each student and is paid to an accredited institution of higher education once the student has been accepted. Scholarship-in-Escrow also helps students make appropriate course selections in junior and senior high school and provides advice on Ohio colleges and universities.
2. The **School-To-Work** program offers employability skills instruction and job placement assistance to Cleveland public school students in the eleventh and twelfth grades. Although emphasis is on entry level job placement for qualified graduates, the School-To-Work program also provides part-time and summer jobs for the younger enrollers.
3. **Education Partners** links individual corporations to each of the twelve comprehensive high schools. The partnerships provide the principal and teachers of each high school with management and administrative support and encourage employee volunteers to work with students as tutors and mentors to help them gain academic skills and self-confidence needed for future employment.

The Greater Cleveland Roundtable launched a massive effort to raise $16 million. To date, over 190 corporations, foundations, and individuals have contributed $14 million to support the programs.

In 1990 the three programs formally became operating partners of the Cleveland Initiative for Education (CIE). Supported by Nordson Corporation, BP America, Cleveland Foundation, and George Gund Foundation, CIE works closely with the community as an advocate for school system improvement in addition to serving as a programmatic umbrella for the operating partners.

The Cleveland Education Fund agreed to collaborate with CIE as an operating partner in 1991. The Fund, a member of the national Public Education Fund Network, focuses on the professional development of teachers in the Greater Cleveland area. Through the Fund, teachers receive small grants to support classroom activities or attend workshops and classrooms. In addition to financial support, local companies are represented on three advisory boards — in science, mathematics, and writing — for the Fund.

Appendix A

Organizations to Contact for Information on Business/ School Interactions

The Council for Aid to Education is a resource for companies and other funders interested in making effective contributions to the quality of American precollege and higher education. For additional information, contact:

Council for Aid to Education, 51 Madison Avenue, Suite 2200, New York, NY 10010
212/689-2400 Diana Rigden, *Director of Precollege Programs*

Business Roundtable
1615 L Street NW, Suite 1350
Washington, DC 20036
202/872-1260
Christopher Cross, *Executive Director Education Initiatives*

Chamber of Commerce
Center for Workforce Preparation & Quality Education
1615 H Street NW
Washington, DC 20062
202/463-5525
Robert L. Martin, *Vice President*

Committee for Economic Development
477 Madison Avenue
New York, NY 10022
212/688-2063
Sandra Hamburg, *Vice President and Director of Education Studies*

Conference Board
Business/Education Council
845 Third Avenue
New York, NY 10022
212/759-0900
Leonard Lund, *Manager*

Council on Foundations
1828 L Street NW
Washington, DC 20036
202/466-6512
Mary K. Leonard, *Director, Precollegiate Education Programs*

Education Commission of the States
707 17th Street, Suite 2700
Denver, CO 80202-3427
303/299-3611
Frank Newman, *President*

National Alliance of Business
Center for Excellence in Education
1201 New York Avenue NW
Washington, DC 20005
202/289-2925
Esther Schaeffer, *Senior Vice President*

National Association for Industry-Education Cooperation
235 Hendricks Boulevard
Buffalo, NY 14266
716/834-7047
Donald Clark, *President*

National Association of Partners in Education
209 Madison Avenue, Suite 401
Alexandria, VA 22314
703/836-4880
Daniel Merenda, *Executive Director*

New American Schools Development Corporation
100 Walnut Boulevard, Suite 2710
Arlington, VA 22209
703/908-9500
W. Frank Blount, *President*

Public Education Fund Network
601 13th Street NW, Suite 370S
Washington, DC 20005
202/628-7460
Wendy Puriefoy, *President*

Public/Private Ventures
399 Market Street
Philadelphia, PA 19106-2178
215/592-9099
Thomas J. Smith, *Vice President, Director of External Affairs*

Triangle Coalition for Science and Technology
5112 Berwyn Road
College Park, MD 20740
301/220-0872
John Fowler, *Director*

Appendix B

Annotated Bibliography of Resources on Business Support of Education Reform

All One System: The Demographics of Education (1985). Harold L. Hodgkinson. Institute for Educational Leadership, 1001 Connecticut Avenue NW, Suite 310, Washington, DC 20036.

Outlines demographic changes in the U.S. population by the year 2000 and describes the education consequences of those changes including the increased number of children entering school from poor and single-parent households and with few substantive preschool experiences. Educational/demographic reports on several individual states are also available.

American Business and the Public Schools: Case Studies of Corporate Involvement in Public Education (1988). Marsha Levine and Roberta Trachtman, sponsored by the Committee on Economic Development. Teachers College Press, Teachers College, Columbia University, New York, NY 10027.

Examines corporate involvement in public education through seven in-depth case studies (Honeywell, Metropolitan life, Burger King, Murry Bergtraum High School for Business Careers, Public Education Funds, the Boston Compact, and education reform in California and Minnesota). Over a dozen mini-case studies illustrate business support of schools through funding, programmatic participation, and involvement in the policy arena.

Beyond Business/Education Partnerships: The Business Experience (1988). Leonard Lund. Conference Board, 845 Third Avenue, New York, NY 10022.

Reviews partnerships in Westchester County (New York), Houston (Texas), Arizona, Detroit (Michigan), and Seattle (Washington), in an overview of ways in which companies are creating more effective coalitions to help improve education. Includes eight brief descriptions of corporate involvement written by executives.

A Blueprint for Business on Restructuring Education (1989). National Alliance of Business, 1201 New York Avenue NW, Washington, DC 20005.

Designed to inform business about how it can organize and be involved in efforts at the state and local level to help restructure education. Drawing on information the National Alliance of Business has gathered from communities where business has helped restructure schools, this report focuses on the early steps business must take if it is to help bring about systemic change.

Business Impact on Education and Child Development Reform (1991). P. Michael Timpane and Laurie Miller McNeill. A study prepared by the Committee for Economic Development, 447 Madison Avenue, New York, NY 10022.

Provides an historical overview of business support of precollege education and outlines patterns of traditional corporate involvement. Describes some of the lessons learned from ongoing projects, and lays out six critical responses for business to make in the coming decade.

The Business Role in State Education Reform (1990). R. Scott Fosler. Business Roundtable, 200 Park Avenue, New York, NY 10166.

Describes ways in which the education system must change, from local schools through districts through state-level departments of education, and provides ideas for business involvement.

Business/School Partnerships: A Path to Effective School Restructuring (1991). Diana W. Rigden. Council for Aid to Education, 51 Madison Avenue, Suite 2200, New York, NY 10010.

Partnerships can be a vehicle for genuine school reform, but only if they are linked with the restructuring efforts of schools and school districts. This report provides guidelines and examples for business leaders and educators interested in designing reform-model partnerships that challenge current school practices, explore new organizational options, and support the difficult process of change.

Children in Need: Investment Strategies for the Educationally Disadvantaged (1987). Committee for Economic Development, 447 Madison Avenue, New York, NY 10022.

Urges the business community to take the lead in providing early and sustained intervention in the lives of those American children — perhaps 30 percent of the total — who are at serious risk of educational failure and lifelong economic dependency. Proposes a three-part strategy to improve the prospects for educationally disadvantaged children through early intervention to prevent problems, complete restructuring of the educational system, and targeted programs for school retention and reentry.

Essential Components of a Successful Education System: The Business Roundtable Education Public Policy Agenda (1991). Business Roundtable, 200 Park Avenue, New York, NY 10166.

Outlines the nine elements of a successful school system, with brief discussions of each element.

A Guide to Working Partnerships (1988). Richard A. Lacey and Christopher Kingsley. A publication of the Center for Human Resources, The Heller School, Brandeis University, 60 Turner Street, Waltham, MA 02254.

Describes how to initiate and operate "work/education partnerships" which focus on developing students' basic skills and helping them make the transition from school to work. Based on the successes and failures experienced by "The Partnership Projects," a network of twenty-one work/education partnerships created with support from the Edna McConnell Clark Foundation.

In the Name of Excellence: The Struggle to Reform the Nation's Schools, Why It's Failing, and What Should Be Done (1991). Thomas Toch. Oxford University Press, 200 Madison Avenue, New York, NY 10016.

Examines the school reform movement from its early political battles in the states to the current debate over restructuring schools and systems. Looks carefully at the influence of teachers' unions and standardized testing on the reform agenda, identifies those efforts that have worked, and explains why, on balance, the educational excellence movement has failed to achieve its goal of providing all students with a solid academic experience.

Investing in Our Children: Business and the Public Schools (1985). A statement by the Research and Policy Committee. Committee for Economic Development, 447 Madison Avenue, New York, NY 10022.

Proposes reforms for the public schools and identifies roles business can play in helping to improve education. Focuses on four areas: employability, from the point of view both of student needs and business needs; investment strategies in education; teachers and schools; and business and the schools — shared goals, common interests.

Making the Best of Schools: A Handbook for Parents, Teachers, and Policymakers (1990). Jeannie Oakes and Martin Lipton. Yale University Press, New Haven, CT 06521.

Defines a new set of school "basics" for guiding individual children and for bringing good schools into the twenty-first century. Tells teachers, parents, and policymakers what is essential to know in order to educate children and improve schools.

A Manager's Handbook to Partnerships: How to Set-Up, Run and Maintain Partnerships (1990). Don Adams and Paul Snodgrass, eds. InfoMedia, P.O. Box 210, Ellenton, FL 34222.

A series of articles by partnership directors provides basic how-to-do-it information. Includes sample forms and an address list of partnership directors who can be contacted by readers for advice and information.

A Nation at Risk — A Report of the National Commission on Excellence in Education (1983). U.S. Department of Education, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Concluding that America's educational foundations have been eroded by a "rising tide of mediocrity," the Commission recommends that schools strengthen requirements, adopt higher standards, devote more time to teaching the basics, and improve teacher education and the teaching profession.

Partners in Education: How Colleges Can Work with Schools to Improve Teaching and Learning (1988). Theodore L. Gross. Jossey-Bass, 350 Sansome Street, San Francisco, CA 94104.

Presents a blueprint for creating alliances between colleges and high schools directed toward improving education. Encourages college deans and administrators to form partnerships with business, community organizations, colleges, and school districts.

Partnerships in Education: Measuring Their Success (1989). Susan D. Otterbourg and Don Adams, eds. InfoMedia, P.O. Box 210, Ellenton, FL, 34222.

A compendium of partnership programs in which partnership directors describe the goals, activities, and achievements of their long-term programs. Introduction by Roberta Trachtman sets the partnership movement in context, and appendix material includes a number of sample evaluation and assessment forms.

School Restructuring: Designing Schools for Better Student Learning (1990). Diana W. Rigden. Council for Aid to Education, 51 Madison Avenue, Suite 2200, New York, NY 10010.

A concise summary and analysis of the goals of restructuring, illustrated by promising examples of reform initiatives across the country. Provides guidelines to help companies identify approaches to supporting systemic change in precollege education and develop a sound education support program that is appropriate to a specific corporate context.

Smart Schools, Smart Kids: Why Do Some Schools Work? (1991). Edward B. Fiske, with Sally Reed and R. Craig Sautter. Simon & Schuster, Rockefeller Center, 1230 Avenue of the Americas, New York, NY 10020.

Provides examples of districts, schools, and classrooms where education reform is well under way and where teaching and learning have been transformed. By looking at a number of promising reform experiments and focusing on what is right with education, the book shows how schools in every community can build on the success of these reform efforts.

Starting Smart: Choosing an Appropriate Partnership with Schools (1990). Angela Evans. Canadian-American Committee Research Document No. 1. National Planning Association, 1424 16th Street N.W., Suite 700, Washington, DC 20036.

Defines a starting point from which the business community can make an informed assessment of how to choose an appropriate role in improving the quality of its workforce through elementary and secondary school reform. Provides background for understanding and assessing a role for business, discusses gaps in the conventional wisdom surrounding business/school partnerships, outlines a decision-making process through which businesses can undertake partnerships, and describes the necessary components of successful business/school interactions. A descriptive directory of seventeen partnerships is included.

The Unfinished Agenda: A New Vision for Child Development and Education (1991). A statement by the Research and Policy Committee. Committee on Economic Development, 477 Madison Avenue, New York, NY 10022.

Analyzes the results of early education reform efforts, reporting that most initiatives have been ineffective because they are unrelated to other efforts and, at times, divert resources and attention from what must be the primary agenda: providing children with the necessary physical (health-related) and social environments for learning. Proposes increased and serious involvement by the business community in a comprehensive, coordinated strategy of human investment.

What Business Leaders Can Do to Help Change Teacher Education (1990). Diana W. Rigden. American Association of Colleges for Teacher Education, One Dupont Circle NW, Suite 610, Washington, DC 20036-2412.

One of four guides accompanying the publication of John I. Goodlad's *Teachers for Our Nation's Schools* (Jossey-Bass, 1990), a major report on the reform of teacher education. Provides an overview of the issues in teacher education and suggests how companies can help colleges and universities carry out Goodlad's recommendations for reform. Other reports in the series include: "What College and University Leaders Can Do to Help Change Teacher Education," "What School Leaders Can Do to Help Change Teacher Education," and "What State Leaders Can Do to Help Change Teacher Education."

Winning the Brain Race: A Bold Plan to Make Our Schools Competitive (1988). David T. Kearns and Denis P. Doyle. Institute for Contemporary Studies, 243 Kearney Street, San Francisco, CA 94108.

Challenges business leaders, policymakers, and concerned citizens to support a program for complete restructuring of the public school system: instituting school choice, abolishing traditional grades, opening schools year-round, providing teachers and principals with greater authority, revising salary structures, raising academic standards, and restoring the values of democracy and citizenship in the schools.

Periodicals

Agenda: America's Schools for the 21st Century. Scholastic, Inc., 730 Broadway, New York, NY 10003; $6.50/issue.

Includes feature articles, news stories, and editorials directed toward developing a shared vision for education reform among business leaders, educators, and policymakers. Published quarterly.

Education Today: Helping Parents Make a Difference. The Educational Publishing Group, Inc., 376 Boylston Street, Boston, MA 02116; $15/yr.

Provides information, resources, and advice to help parents and others support the education of their children, champion academic success, promote local involvement, and communicate the value of education in society.

Education Week. P.O. Box 6987, Syracuse, NY 13217; U.S. subscription rate $49.94/yr.

Covers the news of precollege education through feature stories; news reports of local, state, and federal issues and policies relating to preschool through secondary school; editorials, commentary, and letters; calendar of meetings and events. Published forty times a year.

Network News & Views. Education Excellence Network, 1112 16th Street NW, Suite 500, Washington, DC 20036; U.S. subscription rate $50/yr.

In addition to original work not previously published, includes articles on education issues culled from dozens of publications. Published monthly.

Phi Delta Kappan. P.O. Box 789, Bloomington, IN 47402; U.S. subscription rate $30/yr.

Publishes articles concerned with educational research, service, and leadership, focusing on issues, trends, and policy. Includes editorials, letters, and regular columns on local, state, and national educational issues. Published ten times a year.

Teacher Magazine. Education Inc., 4301 Connecticut Avenue NW, Suite 250, Washington, DC 20008; U.S. subscription rate $18/yr.

Created to monitor and report on education reform initiatives nationwide and serve as a communication network for teachers. Includes feature articles on innovative teaching strategies and school reform issues. Published nine times a year.

Index

Corporate and Other Funding Agencies

Abbott Laboratories, 115
ADC Telecommunications, Inc., 65
Advanced Micro Devices, 103
Advertising Council of Rochester, 135
Aerospace Corporation, 54
AETNA Foundation, 77
Aetna Life & Casualty, 95, 114, 118
Aetna Insurance Company, 117
Ahmanson Foundation, 22, 54, 77
Alcoa Foundation, 54, 123
Allied-Signal Foundation Inc., 126
Allied-Signal Inc., 74, 82
Altier's Shoes, 135
American Express Company, 117, 125, 126
American Express Foundation, 92
Ameritech Foundation, 74, 81, 92, 136
Amoco Foundation, 57, 62
Amoco Oil Company, 57
Amoco Oil Refinery, 116
Arthur Andersen & Company, 115
Aon, 27
Apache Corporation, 77
Apple Computer, Inc., 65, 89, 90
ARA Services, Inc., 88, 117
ARCO Chemical Company, 73, 117
ARCO Foundation, 22, 25, 54, 74, 81, 90, 126
Argonne National Accelerator Laboratory, 57
Arkansas Power & Light, 119
Ashland Oil, Inc., 130
AT&T, 25, 42, 79, 88, 93, 115, 133
AT&T Foundation, 69, 80, 85, 96, 123, 126
Avondale Savings Bank, 42

Banc One Wisconsin Corporation, 136
Bank of New York, 107
Bankers Trust Company, 117
Baxter International, 27
Bayside Nursing Home, 116
Bechtel Group, Inc., 54
Bell Atlantic Charitable Foundation, 57, 74
Bell Telephone Company of
  Pennsylvania, 116
BellSouth Corporation, 16, 33
BellSouth Foundation, 10, 30, 80, 81, 83,
  130, 133
Blum-Kovler Foundation, 27
Boeing Company, 32, 59
Boettcher Foundation, 77
Bojangles-South Carolina, 132
Bonfils-Stanton Foundation, 25
Boston Consulting Group, 42
Boston Globe, 74
Boston Globe Foundation, 92
Bowalter Carolina, 132
BP America Inc., 123, 126, 138
W.H. Brady Co., 38
Bristol-Meyers Squibb, 59
Bristol-Myers Squibb Foundation, Inc., 126
J. Graham Brown Foundation, 130
Brush Foundation, 107
Burlington Industries, Incorporated, 133
Burroughs Wellcome Company, 133

C & P Telephone, 75
C & S National Bank of South Carolina, 132
Cafritz Foundation, 117
Capital Cities/ABC Foundation, 74, 126
Carnegie Corporation of New York, 54, 66,
  69, 70, 83, 88, 89, 105, 130
Carolina Power & Light Company, 133
Annie E. Casey Foundation, 30, 94, 105, 130
Casio, 107
Centel Foundation, 27
Centerior Energy Corporation, 123
Champion International Corporation,
  9, 18, 34, 74
Charlson Research Foundation, 88
Chase Manhattan Bank, 71, 92, 125, 126
Chattanooga Times, 74
Chemical Bank, 92
Chevron U.S.A., 9, 23, 54, 115
Chrysler Corporation Fund, 74, 83, 88, 95,
  118
Chubb Corporation, 115
Ciba-Geigy Corporation, 83, 133
CIGNA Foundation, 35, 117, 126
Circuit City Foundation, 22
Citibank, 22, 36, 77, 92, 125, 135
Citicorp/Citibank, 69, 81
Clancy & Thays Construction Company, 116
Edna McConnell Clark Foundation, 75, 136
Cleveland Education Fund, 138
Cleveland Foundation, 123, 138
CNG Transmission, 75
Coca Cola Foundation, 83, 125, 126
Coliseum Park Nursing Home, 116
Columbia Savings, 77
Comdisco, 27
Commonwealth Edison Company, 27
Commonwealth Fund, 113
Computer Systems Research Inc., 99
Cone Mills Corporation, 133
Connelly Foundation, 117
Conrail, 117
Consolidated Edison, 92
Continental Bank, 117
Coopers & Lybrand, 57
Adolph Coors Foundation, 25

Corporation for Public Broadcasting, 63
Cray Research, Inc., 45, 58
Charles E. Culpeper Foundation, 105
Cummings Fund, 101

Danforth Foundation, 22, 101
Aaron Diamond Foundation, 102
Digital Equipment Corporation, 62, 89
Geraldine R. Dodge Foundation, 126
R.R. Donnelley & Sons Company, 75
Dow Chemical Company Foundation, 62
Richard H. Driehaus Foundation, 27
E.I. du Pont de Nemours & Co., 62, 83, 88
Duke Power Company, 133
Dun & Bradstreet Corporation, 74, 126

Eastern American Energy Corporation, 75
Eastman Kodak Company, 45, 50, 135
Eaton Corporation, 123
Educational Foundation of America, 107
Entergy Corporation, 95, 119
Environmental Protection Agency, 59
Equitable Financial Companies, 83
Equitable Life Assurance Society, 125
Ernst & Young, 125
Ethyl Corporation, 74
Executone Telecommunication Inc., 135
Exxon Chemical Company, 7
Exxon Community Trust, 102
Exxon Education Foundation, 22, 45, 47, 55, 69, 84, 87, 90, 91, 105

Fairfield County Foundation, 34
Fannie Mae Foundation, 96, 121
Fermi National Accelerator Laboratory, 57
Booth Ferris Foundation, 125
First Bank Milwaukee, 136
First City, Texas Bank, 41
First Kentucky National Bank, 130
First National Bank of Bluefield, 75
First National Bank of Commerce, 138
First Tennessee Bank, 103
First Union Corporation, 133
A.J. Fletcher Foundation, 133
Ford Foundation, 30, 69, 81, 81, 89, 114, 123
Ford Motor Company Fund, 59, 74, 89, 117
Foundation for Children with Learning Disabilities, 102
Franklin Electric Company, 117
Frito-Lay, 43

Gannett Foundation, 77, 114
Gates Foundation, 25, 77
GE Appliances, 40
General Electric Company, 40, 115, 117, 133
General Electric Foundation, 40, 74, 89, 90, 96, 122
General Mills Foundation, 27
General Motors Corporation, 54, 115
General Motors Training Division, 116
Getty Center for Education in the Arts, 89
Gheens Foundation, 30
Glaxo, Incorporated, 133
Globe Group, 27
Goldman, Sachs & Co., 42
Graybar, Incorporated, 117
Greater Philadelphia First Corporation, 72
GTE Foundation, 32
GTE South, 133
George Gund Foundation, 123, 138

Hallmark Corporate Foundation, 74
Hampton Roads Police Academy, 116
Harley-Davidson Motor Company, 136
Harris Foundation, 111
Hartford Community Foundation, 107
Hartford Foundation for Public Giving, 104
Charles Hayden Foundation, 102, 122
Hearst Foundation, 22
Hecksher Foundation for Children, 102
H. J. Heinz Foundation, 74
Hewlett-Packard Company, 54, 62, 83
Hitachi Foundation, 81
Hoechst-Celanese Corporation, 115, 133
Hoffmann-La Roche Inc., 45, 60
Honeywell Foundation, 94
Honeywell, Inc., 94, 99, 100, 127
Hope Gas, 75
Houston Endowmwnt, 124
Hughes Aircraft Company, 54
Humana, Inc., 92, 130
Glenn & Gertrude Humphrey Foundation, 136
Hunt Alternatives Fund, 25
Hunt Manufacturing Company, 117
John Huntington Fund for Education, 123
Fred Hutchinson Cancer Research Center, 59

Illinois Bell, 57
IMMUNEX, 59
Inland Steel Industries, 42, 57
Insignia Financial Group, Inc., 132
International Business Machines Corporation, 22, 25, 54, 64, 65, 67, 69, 83, 89, 99, 103, 107, 115, 116, 126, 133
International Paper Company Foundation, 38, 74, 107
Iowa Utility Association, 67

Jefferson Pilot Corporation, 133
Martha Holden Jennings Foundation, 123
Jewel Companies, 57
Johnson & Higgins, 42
Johnson & Johnson Family of Companies, 89, 95, 110, 115, 126
Johnson Controls, 136
Christian A. Johnson Endeavor Fund, 81
Helen K. and Arthur E. Johnson Foundation, 77
Robert Wood Johnson Foundation, 107, 111
Joyce-Mertz Gilmore Foundation, 85

Kaiser Permanente, 115
Keenan Company, 132
W.K. Kellogg Foundation, 62, 69, 77, 81
Kenan Foundation, 133
KFC (Kentucky Fried Chicken), 43
Kidder Peabody, 57
Knight Foundation, 74, 92, 130
Knight-Ridder, 74
KPMG Peat Marwick, 115
Kraft-General Foods Fund, 22, 106

Langley Air Force Base, 116
Lawrence Livermore National
  Laboratories, 58
Liberty Life, 132
Liberty National Bank, 130
Lilly Endowment, 30, 81, 83, 89
Lincoln Electric Foundation, 123
Los Angeles Times, 74
Louisiana Power & Light, 119
LTV Steel Company, 123

MacArthur, John D. and Catherine T.
  Foundation, 62, 67, 69, 103, 105, 114
Robert R. McCormick Charitable Trust, 75
Ronald Mcdonald Children's
  Charities, 27, 125
McDonnell Douglas, 60
James S. McDonnell Foundation, 89
McGraw-Hill Foundation, Inc., 83, 126
McKenzie Group, 29
McNair Law Firm, 132
Marine Midland Bank, 135
Eva Markus Charitable Trust, 123
Marriott Foundation for People with
  Disabilities, 95, 119
Matewan National Bank, 75
Mattel Foundation, 46, 76
Mattel, Inc., 125
Mayer, Brown and Platt, 57
MCI, 107
Mead Corporation Foundation, 39
Mellon Bank, 117
Andrew W. Mellon Foundation, 66, 70, 90
Melville Corporation, 104, 114
Merck Company Foundation, 83
Merrill Lynch & Co. Foundation, Inc.,
  74, 125, 126
Metropolitan Life Foundation, 74, 91, 92,
  108
Metropolitan Life Insurance Company, 91,
  94, 128
MGIC, 136
Milwaukee Foundation, 136
Minnesota Mining and Manufacturing
  (3M) Company, 115, 126
Mississippi Educational TV, 65
Mississippi Power & Light, 119
Mitsubishi Electric America Foundation,
  95, 119
Mobil Corporation, 115
Mobil Foundation, 83
Monongahela Power Company, 75
Monsanto Company, 60, 63
Monsanto Fund, 45, 63, 68
Montez Real Estate, 132
Montgomery Ward, 42
J.P. Morgan & Company, Incorporated,
  117, 125
Morgan Guaranty Trust Company, 92, 126
Morgan Stanley & Company, 83
Morgantown Energy Associates, 75
Motorola Corporation, 57, 103
Motorola, Inc., 44
Mutual Benefit Life Insurance, 101

NAPA Auto Parts, 116
NASA Langley Research Center, 115
National Bank of Commerce, 75
National Endowment for the Humanities,
  70, 73, 90
National Medical Enterprises, Inc., 107
National Science Foundation, 57, 60, 62, 64,
  67, 67, 69, 73, 89
National Security Agency, 69
Nationsbank, 132
NCNB Corporation, 115, 133
Nelson, Mullins, Riley, & Scarborough, 132
Nestle, 74
New York Community Trust, 102
New York Life Foundation, 74
New York Power Authority, 107
New York Telephone, 92
New York Times, 74
New York Times Company Foundation, 89,
  90, 92, 125, 126
Newport News Shipyard, 115
Edward John Noble Foundation, 125
Nordson Corporation, 138
Northern Telecom Inc., 65, 115
Northwestern Mutual Life Insurance
  Company, 136
NYNEX, 115
NYNEX Foundation, 92

Ogilvy & Mather, 57
Ohio Bell, 92
Orlando Sentinel, 74

PACE Membership Warehouse, 25
Pacific Gas and Electric Company, 54
Pacific Telesis Corporation, 1
Pacific Telesis Foundation, 9, 14, 18, 22, 24
Pacific Telesis Group, 54
Panasonic Foundation, 9, 10, 18, 24, 30
Panhandle Telecommunications
  Systems, Inc., 66

Panhandle Telephone Cooperative, Inc., 66
Parsons Foundation, 54
J. C. Penney Company, Inc., 18, 31, 74
Pennzoil Company, 74
PepsiCo, Inc., 43, 107, 126
Pepsi-Cola, 43
Jane & Lloyd Pettit Foundation, 136
Pew Charitable Trusts, 22, 67, 72, 73, 80, 81, 89, 114, 123, 124
Pfizer Foundation, 74
Pfizer Inc., 61
Philadelphia Coca-Cola Bottling Company, 117
Philadelphia Electric Company, 116
Philadelphia Newspapers, 117
Philip Morris Companies, 47, 83, 86
Philips Telecommunications and Data Systems, 89
Phoenix Mutual Life Insurance Company, 107
Physiocontrol, 59
Piton Foundation, 25, 77
Pizza Hut, 43
Polaroid Education Foundation, 83, 92
PPG Industries, Inc., 83
Premark International, Inc., 27
Price Waterhouse, 115
Primerica, 107, 117
Prince Charitable Trusts, 75
Procter & Gamble, 115
Providence Journal, 74
Prudential Foundation, 83, 94, 100
Prudential of America, 115
Public Service Company of Colorado, 25
Puget Sound Power and Light Company, 59

Quaker Chemical Company, 117
Quaker Oats Company, 27, 42

Ralston Purina, 60
Reader's Digest Foundation, 74
Refco, Inc., 27
Reily Foundation, 138
Reliance Insurance Company, 117
Z. Smith Reynolds Foundation, 132
RJR Nabisco Foundation, 17, 18, 28, 74, 89, 114, 126
Roberts Communications Inc., 135
Rochester Gas and Electric, 135
Rochester Products Division-General Motors Corporation, 135
Rockefeller Brothers Fund, 22, 47, 81, 90
Rockefeller Foundation, 72, 73, 76, 104
Rocket Research, 59
Rockwell International Corporation, 37, 83, 116
Rohm and Haas Company, 117
Ryder System, Inc., 92
Rymer Foods, 27

SAFECO, 59
St. John's Community Foundation, 34
St. Petersburg Times, 74
San Francisco Foundation, 22
Sandia National Laboratories, 89
Santa Fe Pacific Foundation, 74
Sara Lee Corporation, 117
SCANA and Subsidiaries, 132
Schering-Plough Corporation, 125
Schumann Foundation, 101
Scott Paper Company, 100, 117
Sears, Roebuck & Company, 27, 42, 89
Security Pacific Corporation, 95, 120
Sentara Hampton General Hospital, 116
Shearson Lehman Brothers, 117
Shearson Lehman Hutton, 117
Shell Oil Company Foundation, 69, 115
Sherman Fairchild, 107
Showa Denka K.K., 77
Siemens Corporation, 126
A.O. Smith Corporation, 136
South Central Bell Telephone, 65
Southeast Bank, N.A., 77
Southern Bell , 92, 133
Southwest Bank, N.A., 92
Southwestern Bell Corporation, 45, 55
Southwestern Bell Foundation, 22, 55, 84
Southwestern Bell Telephone, 60
Springs Industries, Inc., 132
Starr Foundation, 83, 102, 126
Stuart Foundations, 107
Sun Microsystems, 89, 114
Sun Refining and Marketing Company, 116
Sunwest Financial Services, Inc., 77

Taco Bell, 43
Tandy Corporation, 74, 126
Teagle Foundation, 69
Tenneco Inc., 74, 96, 124
Texaco Inc., 45, 63
Texas Instruments Foundation, 95, 109
Time Warner Inc., 46, 78, 81, 125
Times-Mirror Foundation, 74
Toyota Motor Manufacturing, 130
Trans Union, 42
Travelers Companies Foundation Inc., 104, 112
Trenton Times, 74
TRW Foundation, 123
TRW Inc., 54
TRW Inc., Employees Charity Organization of, 107

Union Carbide Corporation, 18, 26, 83, 89, 115
Union Carbide Foundation, 26
Union Electric, 117
UNISYS, 74
United Airlines, 27

United Parcel Service, Inc., 130
U.S. Department of Defense, 62
U.S. Department of Education, 39, 62, 67, 67, 69, 119
U.S. Department of Energy, 57, 69
U.S. Department of Health and Human Services, 111
United Technologies, 115
Upjohn Company, 45, 52
UPS Foundation, 22
US WEST, 47, 59, 100
US WEST Foundation, 47, 54, 83, 95, 109

Wachovia Bank & Trust Company, 133
DeWitt Wallace-Reader's Digest Fund, 22, 72, 81, 89, 114, 125, 126
Washington Natural Gas, 59
Washington Post, 46, 74, 78
Wegmans Food & Pharmacy, 135
Weingart Foundation, 69
Wells Fargo Foundation, 24
Westinghouse Electric Corporation, 45, 53, 54, 117, 133
Thomas H. White Foundation, 123
Whittle Communications, 18, 29
WICOR Foundation, 136
Winters Group, 135
Wisconsin Bell, 136
Wisconsin Electric, 136
Wisconsin Energy Corporation, 136
WNET/Thirteen, 45, 63
WWOR-TV, 92

Xerox Corporation, 83, 89, 89, 117, 135
Xerox Foundation, 74, 90

Index

Programs and Organizations

A Better Chance, 96, 124
Academy of Finance, 117
Accelerated Schools Project, 9, 18, 23
Ackerman Institute for Family Therapy, 101
Agenda for Teacher Education in a Democracy, 47, 84
Aiken High School (OH), 122
Albany State College (GA), 80
America 2000, 1, 18, 129
American Association for the Advancement of Science American, 45, 57, 66, 67
American Association of Colleges for Teacher Education, 84, 85
American Chemical Society, 61
American Federation of Teachers, 47, 87
American Gas Association, 57
American Institute of Physics, 60, 61
John E. Anderson Graduate School of Management (UCLA), 110
Arizona State University, 96, 123
AT&T Teachers for Tomorrow Program, 47, 80, 85

Banking on Education, 36
Bay Area Writing Project, 70
Baylor College of Medicine (TX), 68
Beethoven Project, 95, 111
Bethune-Cookman College (FL), 80
Big Brothers/Big Sisters, 99
Biotechnogy Education Project, 63
Book It!, 43
Brainpower Learning Alliance, 134
Brandeis University, 123
Bridges...from school to work, 119
Business Council of New Orleans and the River Region, 138
Business Roundtable, 1, 6, 26n, 32, 130
Business Task Force on Education (LA), 137

Cabrini-Green Tutoring Program, 42
California Academy of Mathematics and Science, 37
California State University-Dominguez Hills, 37
California State University-Los Angeles, 23
Career Beginnings, 4, 95, 96, 113, 122
Carnegie Council on Adolescent Development, 34
Center for Corporate and Education Initiatives, 113, 122
Center for Educational Development, 50, 133, 134
Center for Educational Renewal, 83
Center for Educational Research, 23
Center for Leadership in School Reform, 9, 30
Center for Successful Child Development, 95, 111
Center for Urban Education, 79, 85
Chase/Lehman College Writing Project, 71, 71
Chicago (IL) Public Schools, 27
Chicago United, 57
Chicago Urban League, 111
Chippewa Valley Technical College (WI), 58
Cities in Schools, 106
City University of New York, 71, 72, 86
Cleveland Initiative for Education, 138
Cleveland (OH) Public Schools, 138
Cleveland Scholarship Programs, Inc., 96, 123
Coalition for Educational Excellence by 2000 (LA), 137
Coalition of Essential Schools, 9, 18, 21, 30, 36
Gavin H. Cochran Elementary School (AL), 40
Collaboratives for Humanities and Arts Teaching, 76
College Bound, 96, 122
Columbia College of Chicago (IL), 42
Columbia University (NY), 120
Community Action (MA), 114
Community Services Development Center (TX), 110
Community Youth-At-Risk Program (NY), 106
Margaret H. Cone Center, 109
Consortium on Teacher Supply and Quality, 47, 80
Cooperative Services Agency, 58
Corporate/Community Schools of America, 18, 27
Council of Great City Schools, 86
Covenant House, 36
Cray Academy, 58

Dallas County Family Services, 109
DePaul University (IL), 47, 79
Distributive Education Clubs of America, 43
The Door (NY), 36
Drug Abuse Resistance Education (D.A.R.E.), 43
Duke University (NC), 78

Easton (PA) School District, 61
Edison Project, 29

Education and Community Resources (EDCORE), 38
Education Commission of the States, 21, 84, 86
Education for the Future Project, 18, 24
Educational Testing Service, 71
Effective Parenting Information for Children, 134
El Paso (TX) Independent School District, 90
Executive Service Corps of Washington, 32
Evergree State College (WA), 90

Family Math, 56
Family-School Collaboration Project, 94, 101
Fannie Mae/Howard D. Woodson S.H.S. Incentive Scholarship Program, 121
Flowers with Care, 36
Food Research and Action Center, 101
Ford Fellows Sci/Math Project, 59
Fort Worth (TX) Independent School District, 31
Futures 500 Club, 96, 121

George Washington University (D.C.), 57
Gheens Professional Development Academy, 30
Gramblin State University (LA), 80
Great Books Foundation, 74
Great Potential Program, 94, 106
Greater Cleveland Roundtable, 138
Greater Milwaukee Committee, 135
Greater Milwaukee Education Trust, 38, 135
Greater Rochester Metro Chamber of Commerce, 135

Harris, Louis and Associates, 91, 108, 113
Hartford Early Learning Partnership, 95, 112
Harvard Graduate School of Education, 80
Hastings Center, 60
Head Start, 94, 109, 109, 110
Head Start-Johnson & Johnson Management Fellows Program, 110
Healthy Me, 94, 108
Hennepin County Community Services, 99
Higher Ground, 96, 114, 122
Hillsborough County (FL) Public Schools, 32
Hispanic Mother-Daughter Program, 96, 123
Holmes Group, 85
Home and School Institute, 94, 103
Housing Partnerships, 116
Houston (TX) Independent School District, 124

IMPACT II, 47, 91
Industrial Management Council (NY), 135
INROADS, 95, 114
Institute for Educational Leadership, 101
Institute for Literacy Studies, 71, 72
Institute for Research on Learning, 47, 89

Jefferson County (KY) Public Schools, 18, 30
Jefferson Davis High School (TX), 124
Junior Achievement, 134
Junior Great Books, 46, 74
Junior Great Books Read Aloud, 75

Kalamazoo Area Mathematics and Science Center, 52
Kentucky Education Reform Act, 130
Kodak 21st Century Learning Challenge, 50

Lawrence Hall of Science, 53
Lehman College, 71, 71, 72
Liberty Partnerships Program, 106
Literacy League, 46, 77
Los Angeles (CA) Unified School District, 107

McAllen (TX) Independent School District, 55
McAllen/Mission Mathematics and Science Project, 55
Manhattan Center for Science and Mathematics, 122
Mathematical Association of America, 45, 69
Mathematical Sciences Education Board, 46, 49
Mathematics and Science Education Center, 64
Mathematics, Engineering, Science Achievement, 45, 53
MegaSkills Workshop Program , 103
Metropolitan Area Committee (LA), 137
Metropolitan Milwaukee Association of Commerce, 135
Middle School Partnership Project, 34
Milwaukee Area Technical College, 39
Milwaukee (WI) Public Schools, 135
Minneapolis Children's Medical Center, 99
Minneapolis Federation of Teachers, 27
Minneapolis Health Department, 99
Minneapolis Public School Academy, 18, 27
Minneapolis (MN) Public Schools, 27, 99
Minorities in Teaching Program, 47, 83
Mission (TX) Consolidated Independent School District, 55
Mississippi School for Math and Science, 65
Mississippi State University, 65
Mississippi 2000, 65
Mississippi University for Women, 65
Model Classrooms, 41

National Academy Foundation, 95, 117
National Academy of Sciences, 62
National Action Council for Minorities in Engineering, 55
National Alliance of Business, 31
National Assessment of Educational Progress, 52

National Association of Partners in Education, 51
National Board for Professional Teaching Standards, 47, 88
National Center on Education and the Economy, 50, 135
National Commission to Prevent Infant Mortality, 101
National Council of Teachers of Mathematics, 45, 55, 58, 69
National Faculty of Humanities, Arts and Sciences, 9, 47, 90
National Foundation for Teaching Entrepreneurship, 95, 120
National Health-Education Consortium, 101
National Research Council, 69
National Science Resources Center, 62
National Science Teachers Association, 45, 61, 67
National Writing Project, 4, 46, 70, 72, 72
Neighborhood School Partnership, 35
New American Schools Development Corporation, 18
Thomas Nelson Community College (VA), 116
New Futures Initiative, 30, 94, 105
New Horizons Governor's School for Science and Technology (VA), 115
New Horizons Technical Center, 95, 115
New Vistas High School (MN), 94, 99
New York City Board of Education, 36, 86, 91, 101, 117, 122
Next Century Schools, 28
North Carolina School Improvement and Accountability Act, 132
North Carolina Teacher Enhancement Act, 132
North Division High School (WI), 122
Northwestern Oklahoma State University, 66

Oakland (CA) Technical High School, 54
Oklahoma Panhandle Project, 66
Orleans Parish (LA) School Board, 137
Ounce of Prevention Fund, 111

Panhandle State University (OK), 66
Parents As First Teachers, 95
Parents As Teachers, 94, 99
Partnering with Parents for Student Success, 40
Partnership for Kentucky School Reform, 130
Pasedena (CA) Hogh School, 22
PATHS/PRISM: The Philadelphia Partnership for Education, 72
Peabody College of Vanderbilt University, 80
Perry Preschool Project, 110
Philadelphia Alliance for Teaching Humanities, 72
Philadelphia High School Academies, 95, 116
Philadelphia, School District of, 72, 116
Prep for Prep, 96, 124
Prichard Committee for Academic Excellence, 129, 130
Principal Leadership Program, 33
Principia College (IL), 64
Project 2061, 45, 66, 67
Project A Plus, 103
Project STEP, 120
Public Education Coalition, 25, 46, 77
Public Education Fund Network, 138
Public School Forum of North Carolina, 132
Puget Sound Educational Consortium, 59

RAND Corporation, 122
Reading Is Fundamental, 46, 73
Recruiting New Teachers, 47,81
Re:Learning, 21
Rochester Brainpower, 134
Rochester (NY) School District, 133
Rochester Teachers Association, 134

St. Charles Parish (LA) School System, 18, 26
San Francisco (CA) Unified School District, 23, 86
San Francisco (CA) State Univewrsity, 23, 86
Scholarships-in-Escrow (OH), 138
School and Business Alliance (NY), 134
School Development Program, 94, 103
School Renewal Project, 18, 25
School Savings Program, 41
School-To-Work (OH), 138
Schools for the 21st Century (WA), 90
Science Education for Equity Reform, 60
Scope, Sequence, and Coordination Project, 45, 67
Silver Spring Elementary School (WI), 39
Johnson C. Smith University (NC), 80
Smithsonian Institution, 62
South Carolina Education Improvement Act, 129, 131
Southeastern Region Vision for Education, 133
Southern Education Foundation, 47, 80
Stanford University (CA), 23, 89
Stamford (CT) Urban League, 34
State University of New York at Genesco, 51
State University of New York at Purchase, 106
Stepping Up, 95, 118
Success by Six, 99
Success in Reading and Writing, 46, 78
SUNY Purchase Westchester School Partnership, 106

Target 2000, 131
Teach For America, 47, 82

Teacher Training Institute for Science, Television and Technology, 63
Teachers Academy for Mathematics and Science in Chicago, 56
Teachers College at Columbia University (NY), 44, 80
Tenneco Presidential Scholarship Program, 124
Texas A&M University, 23
Time to Read, 46, 78
Toledo (OH) School District, 28
Tulane University (LA), 81
Tuskegee University (AL), 80

United Negro College Fund, 36
United Way, 99, 102
University City (MO) School District, 60
University of California at Berkeley, 53, 70, 120
University of California at Los Angeles, 110
University of Hartford (CT), 112
University of Houston-Downtown (TX), 124
University of Missouri at St. Louis, 64
University of New Orleans (LA), 23
University of North Florida, 86
University of Northern Iowa, 47, 83
University of Pennsylvania, 72
University of Southern California at Los Angeles, 120
University of Tennessee, 47, 86
University of Texas-Arlington, 110
University of Texas-Pan American, 55
University of Washington, 59, 84
University of West Virginia College of Graduate Studies, 65
University of Wisconsin-Eau Claire, 58
Urban League (of New Orleans), 137
Urban League of Rochester, 133
Urban Schools Program, 90
Urban Sites Writing Network, 71, 72
Urban Teachers Corps, 47, 79

Valley High School (NM), 122
Virginia Air and Space Center, 115

Washington University (MO), 63
Washington School Directors Association, 32
West Virginia Humanities Council, 75
Western High School (KY), 122
Westinghouse Science Talent Search, 45, 53
Wharton School of Business at University of Pennsylvania, 120
Whittle Schools & Laboratories, 29
Wisconsin Educational Partnership Initiative, 58
Wonder Science, 61
Henry D. Woodson High School (D.C.), 121
World of Work, 95, 118
Writing Across the Curriculum Project, 46, 72
Writing and Learning Project, 71
Writing Assessment Project, 71, 72
Writing to Read, 46, 76

Xavier University of Louisiana, 80

Youth Development Center, 100

Zero-to-Three, 94, 100

Index

General Subject Index

[Many of the programs and activities described in *Business and the Schools* address a number of educational issues and needs in addition to the major topic under which they appear in the chapters. The following subject index may provide readers interested in a specific programmatic areas with additional descriptions to consult and people to contact for further information. The index provides references to different elements within programs as they are described in this report; we do not wish to imply that other programs included in the report do not also address these areas.]

Advertising for education, 37, 131
Assessment, alternative strategies for, 23, 26, 72, 88, 131
Assessment, program, 24, 25, 27, 59, 64, 70, 71, 72, 75, 100, 109, 113, 122
At-risk students, 23, 27, 36, 42, 61, 74, 79, 90, 99, 103, 105, 106, 107, 109, 111

Business education, 33, 38, 41, 43, 58, 118, 120, 120, 121

Careers, 35, 37, 54, 83, 113-120, 121
College preparation, 36, 37, 52, 53, 53, 65, 83, 121-126
Computer labs, 64, 65, 76, 99, 115
Curriculum, 50-78
  health, 108
  language-based, 23
  preschool, 112
  science/math, 33, 37, 55, 60, 60, 61, 62, 63, 63, 66, 67, 68
  "student-as-worker", 21, 30

Disabilities, students with, 76, 119, 120
Distance learning, 65
Dropout prevention, 33, 35, 61, 116, 133
Drug-abuse prevention, 33, 43

Educational research, 72, 89, 133
Elementary schools, 23, 24, 27, 27, 38, 40, 41, 55, 55, 60, 61, 62, 73, 77, 78, 103, 118
Equity, 60

Family issues, 99-108, *see* parental involvement

Goals, National Education, 1, 16, 45, 94, 95
Governance, 24, 24, 25, 26, 27, 27, 30-33, 35, 36, 87, 90, 103, 132, 133
Grants for teachers, 37, 38, 39, 91, 118

"Hands-on" learning, 21, 23, 25, 55, 58, 60, 61, 62, 63, 68, 89, 115, 116, 120, 121
Health care, 99-108, 111, 119
High schools, 21, 52, 53, 53, 66, 67, 83, 99, 113, 114, 115, 116, 117, 119, 119, 120, 121, 122, 123

Instructional television, 63, 65

Leadership training, 25, 30, 31, 32, 33, 33, 58, 62, 110, 119, 133

Magnet schools, 34, 121
Management *see* Governance
Mathematics, 33, 34, 36, 37, 50-69, 89, 115
Mentors for students, 35, 36, 42, 50, 61, 99, 113, 115, 121, 123, 134
Mentors for teachers, 59
Middle schools, 24, 34, 67, 71, 89, 114, 133

"New" school designs, 28, 29

Parental involvement, 23, 24, 25, 26, 27, 27, 34, 40, 41, 42, 53, 55, 56, 73, 99, 99, 100, 101, 103, 103, 105, 109, 109, 111, 123
Pre-kindergarten, 27, 50, 74, 75, 99, 100, 109-112

Reading, 73-78
Rural education, 65, 132

SAT preparation, 36, 122
Scholarships for students, 36, 37, 53, 121, 122, 123, 124, 133, 138
Scholarships for teachers, 91
School-based management *see* Governance
School restructuring, 21-30, 36, 84, 86, 87, 90, 130, 131, 132, 133, 135
School-to-work, 35, 36, 113-120, 138
Science, 33, 34, 36, 37, 50-69, 89, 115
Shared decision-making, 21, 23, 24, 24, 25, 27, 30, 32, 32, 50, 58, 87, 101, 103, 134

Teacher awards, 38, 38, 39
Teacher training, 22, 24, 27, 30, 35, 36, 37, 38, 39, 50, 55, 55, 56, 57, 58, 59, 60, 62, 63, 63, 64, 67, 70, 71, 72, 75, 76, 77, 79-92, 131, 132, 133

Vocational education *see* School-to-work
Volunteers, employee, 32, 35, 36, 37, 38, 39, 40, 42, 50, 57, 61, 78, 99, 118, 120, 121, 122

Writing, 70-73
Writing Across the Curriculum, 71, 72

Index

Regions and States

Northeast

Connecticut, 34, 61, 95, 103, 105, 107, 112, 126
Delaware, 21
District of Columbia, 28, 36, 57, 78, 96, 101, 104, 118
Maryland, 119
Massachusetts, 80, 84, 90, 105, 108, 114, 125
New Jersey, 60, 84, 94, 100, 120
New York, 36, 50, 63, 64, 71, 71, 80, 86, 87, 91, 94, 101, 105, 106, 117, 120, 122, 125, 133
Pennsylvania, 21, 35, 61, 71, 72, 90, 100, 105, 116, 126
Rhode Island, 21

South

Alabama, 80, 100, 108, 133
Arkansas, 21, 82, 105, 119
Florida, 32, 36, 63, 80, 86, 92, 133
Georgia, 33, 67, 80, 82, 105, 133
Kentucky, 30, 40, 122, 130
Louisiana, 23, 26, 63, 80, 82, 119, 137
Mississippi, 65, 119
Oklahoma, 65
North Carolina, 33, 43, 54, 67, 80, 82, 132
South Carolina, 63, 84, 131, 133
Tennessee, 51, 80, 86, 103
Texas, 23, 31, 41, 43, 51, 63, 66, 67, 82, 84, 90, 95, 103, 109, 124
Virginia, 115
West Virginia, 75

Midwest

Illinois, 21, 27, 36, 42, 75, 79, 95, 111, 119
Indiana, 21
Iowa, 67, 83
Kansas, 54, 63
Michigan, 34, 43, 52, 110, 117, 118
Minnesota, 27, 87, 99, 126
Missouri, 60, 63, 100
Ohio, 27, 63, 84, 92, 96, 105, 122, 138
South Dakota, 54
Wisconsin, 38, 58, 63, 67,122, 135

West

Alaska, 74, 90
Arizona, 54, 90, 123
California, 22, 23, 24, 37, 53, 63, 64, 67, 70, 76, 82, 84, 86, 87, 89, 95, 105, 107, 110, 119, 120
Colorado, 22, 25, 51, 54, 60, 77
Hawaii, 90
Idaho, 90
New Mexico, 21, 54, 100, 122
Oregon, 54, 90, 108
Utah, 54
Washington, 32, 41, 54, 59, 63, 84, 90
Wyoming, 84

Precollege Advisory Board Members

Robert C. Allen
Director, Corporate Contributions
Duke Power Company

D'Wanna Berg
Manager, National and Community Affairs
Travelers Companies Foundation

Michael Bivens
Education Program Manager
Coca-Cola Foundation

Emelda M. Cathcart
Director, Corporate Contributions
Time Warner Inc.

Charles O. DeRiemer
Executive Director
Southwestern Bell Foundation

Susan J. Driggers
Education Relations Director
BellSouth Telecommunications

David S. Ford
Vice President, Director of Philanthropy
Chase Manhattan Bank, N.A.

Sondra J. Hardis
Manager, Education Programs
BP America Inc.

Cheryl Kubelick
Manager, Contributions & Community Affairs
Westinghouse Electric Corporation

John L. Mason
President
Monsanto Fund

Westina Matthews
Manager, Corporate Contributions
Merrill Lynch & Co., Inc.

Jacqueline R. Millan
Manager, Corporate Contributions
PepsiCo, Inc.

Virginia Millan
Program Associate in Education
Metropolitan Life Foundation

Barry Morris
Executive Assistant to the Chairman for Education
Tenneco Inc.

Sophie Sa
Executive Director
Panasonic Foundation

Bess Stephens
Education Relations Manager
Hewlett-Packard Company Foundation

COUNCIL FOR AID TO

Council for Aid to Education
51 Madison Avenue, Suite 2200
New York, NY 10010
212/689-2400